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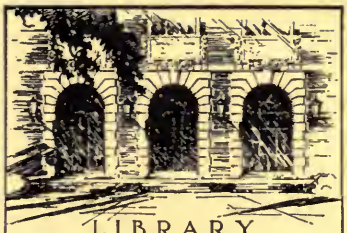
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STUDIES OF CENTRAL AMERICAN PLANTS—V

BY

PAUL C. STANDLEY

CURATOR OF THE HERBARIUM, DEPARTMENT OF BOTANY

AND

JULIAN A. STEYERMARK

ASSISTANT CURATOR OF THE HERBARIUM, DEPARTMENT OF BOTANY

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STUDIES OF CENTRAL AMERICAN PLANTS—V

PAUL C. STANDLEY AND JULIAN A. STEYERMARK

The following pages are occupied almost wholly with descriptions of Guatemalan plants of a limited number of families, obtained by recent botanical expeditions of Field Museum of Natural History. There are discussed also a few plants from other parts of tropical North America.

AMARANTHACEAE

Amaranthus spinosus L. Sp. Pl. 991. 1753. *Xanthium parvifolium* DC. Prodr. 5: 524. 1936.—The identification of De Candolle's name has been published by S. F. Blake, Contr. U. S. Nat. Herb. 26: 228. 1930, in a discussion of types of Compositae. It is repeated here only in order to associate it with the family to which the plant really belongs.

MENISPERMACEAE

Disciphania nesiotes Standl., sp. nov.—Scandens volubilis fere glabra, caulibus gracilibus herbaceis striatis glabris, internodiis elongatis; folia omnia similia longipetiolata membranacea, petiolo 4–7 cm. longo basi incrassata geniculato glabro; lamina in utraque facie pilis paucis inconspicuis adpressis induta vel fere omnino glabra, basi profunde angusteque cordata, supra viridis, subtus multo pallidior, profunde interdum fere ad basin lobata, 7–13 cm. lata, lobis 1–3 cm. latis prope basin plus minusve angustatis, acutis vel acuminatis, interdum rotundatis et breviter apiculato-acuminatis, integris vel rare bilobis; spicae masculae longipedunculatae, pedunculo incluso 4–6 cm. longae, sat dense multiflorae vel interruptae glabrae, bracteis lineari-filiformibus 1.5–2 mm. longis viridibus patentibus vel adscendentibus, sepalis exterioribus late ovatis obtusis carnosulis 2.5 mm. longis prope apicem puberulis; spicae femineae pedunculatae in statu fructifero ca. 4 cm. longae, rhachi crassa; endocarpium late ellipticum paullo compressum, 8 mm. longum fere 6 mm. latum, basi et apice obtusum, una facie 1-costatum, facie altera 3-costatum, costis paullo elevatis undulatis et rugosis.—Mexico: María Madre Island, off the coast of the state of Nayarit, July 24, 1932, *John Thomas Howell* 10438 (type in Herb. Calif. Acad. Sci.; fragment in Herb. Field Mus.); vernacular name "Uva."

In *Trees and Shrubs of Mexico* the genus *Disciphania* does not appear among the few Menispermaceae recorded from Mexico, but one species, *D. calocarpa* Standl., more plentiful in Central America, has since been found in Veracruz. It is altogether unlike the present plant in foliage, the leaves being entire and peltate. *D. nesiotes* bears some resemblance to the illustration of *D. Glaziovii* Taubert (see Pflanzenreich IV. 94: *f. 63.* 1910), a Brazilian species with dimorphous leaves.

LAURACEAE

Ocotea laetevirens Standl. & Steyerm., sp. nov.—Arbor 9-metralis, ramulis gracillimis fere omnino glabris vel in statu juvenili sparse minutissime puberulis, teretibus; folia crasse membranacea breviter petiolata, petiolo gracili 7–10 mm. longo; lamina oblongo-elliptica vel lanceolato-oblonga 12–18 cm. longa 4–6.5 cm. lata subito sensimve acuminata, acumine angusto obtuso, basi acuta, glabra, supra opaca, venis vix prominulis, subtus lutescenti-viridis vel olivacea, penninervia, nervis lateralibus utroque latere ca. 8 arcuatis angulo semirecto adscendentibus, venis prominulis laxe reticulatis; inflorescentia laxe paniculata foliis saepe longior, parte ramosa ca. 6 cm. longa, pedunculo ut videtur recurvo 4–9 cm. longo gracillimo, floribus numerosis, pedicellis saepe subumbellatis 2–3 mm. longis glabris vel minutissime strigillosis; flores in alabastro globosi vix 2 mm. longi minute sparseque puberuli; perianthii tubus brevissimus, segmentis subaequalibus late ellipticis obtusissimis suberectis; filamenta staminum extimorum lata crassaque anthera paullo longiora glabra, antheris late ovatis apice obtusissimis; glandulae basales staminum interiorum magnae globosae sessiles; staminodia stipitiformia vel interdum fere nulla; fructus cupula hemisphaerica 1 cm. lata, margine simplici.—Guatemala: Dept. Huehuetenango: Cerro Chiblac, between Finca San Rafael and Ixcán, Sierra de los Cuchumatanes, alt. 1,200–2,000 meters, July, 1942, *Julian A. Steyermark* 49189 (type in Herb. Field Mus.). Between Ixcán and Finca San Rafael, 200–800 meters, *Steyermark* 49378.

Ocotea chiapensis (Lundell) Standl. & Steyerm., comb. nov. *Nectandra chiapensis* Lundell, Contr. Univ. Mich. Herb. 6: 12. 1941.

Ocotea verapazensis Standl. & Steyerm., sp. nov.—Arbor 6–12-metralis, ramulis gracilibus obtuse angulatis fere omnino glabris; folia chartacea in sicco fusca vel fuscescentia breve petiolata, petiolo gracili ca. 1 cm. longo anguste fere ad basin angulato; lamina

oblanceolato-oblonga vulgo 14–27 cm. longa atque 4.5–8 cm. lata, sensim subitove breviter acuminata, acumine obtuso, basin acutam vel subobtusam versus sensim attenuata, glabra, penninervia, venis utrinque arcte prominulo-reticulatis, nervis lateralibus utroque latere ca. 8 angulo latiusculo valde adscendentibus in axillis non barbatis; paniculae laxae multiflorae pedunculo longo gracili incluso 15 cm. longae vel breviores foliis breviores, ramis glabris, pedicellis gracilibus usque 3.5 mm. longis; flores parvi virides 2.5 mm. longi glabri; perianthii tubus brevissimus, segmentis late ellipticis obtusis; antherae fere sessiles ovato-quadratae apice obtusissimae vel subtruncatae, filamentis crassis glabris; staminodia abortiva; ovarium globosum glabrum, stylo brevissimo; bacca ellipsoidea 2.5 cm. longa 1.5 cm. lata lucida; cupula rubra turbinato-campanulata 12–15 mm. lata, pedicello crassissimo.—Guatemala: Dept. Alta Verapaz: Tactic, alt. 1,480 meters, April, 1939, *Paul C. Standley* 71421 (type in Herb. Field Mus.). Mountains east of Tactic, on the road to Tamahú, 1,500–1,650 meters, *Standley* 71421, 71163. Dept. Izabal: Along Río Tameja, 50 meters, *Steyermark* 41789.

Persea sessilis Standl. & Steyerm., sp. nov.—Frutex 1.5 m. altus, ramis teretibus ca. 7 mm. crassis densissime foliatis fusco-ferrugineis glabris vel glabratis; folia subrigide coriacea lucida fere sessilia, petiolo ca. 4 mm. longo atque 5 mm. lato; lamina anguste lanceolato-oblonga ca. 20 cm. longa et 5.5–7 cm. lata acuta vel acuminata, apice ipso subobtuso, basin versus parum attenuata, basi ipsa lata breviter cordata, glaberrima, costa supra breviter sulcata, subtus crassa maxime elevata, nervis lateralibus utroque latere ca. 15 angulo latiusculo adscendentibus, nervis prominulis laxe reticulatis; paniculae foliis multo breviores cymose pauciflorae minute sed vix dense pilosulo-tomentulosae, floribus breviter pedicellatis, ramis adscendentibus; perianthii segmenta subaequalia vel exteriora paullo breviora latissime ovata vel subrotunda apice obtusissima vel rotundata, utrinque sericea, in statu fructifero persistentia et patentia; ovarium glabrum; fructus immaturus globosus 1 cm. diam.—Guatemala: Dept. Zacapa: Upper slopes, Sierra de las Minas, along Río Repollal to summit of mountain, alt. 2,100–2,400 meters, January 12–13, 1942, *Julian A. Steyermark* 42487 (type in Herb. Field Mus.).

Known from only imperfect fruiting material, but there is no doubt as to the proper reference of this plant to *Persea*, in which genus it is one of the most distinct species. It is the only species of continental North America having sessile leaves.

Persea vesticula Standl. & Steyerm., sp. nov.—Arbor 15–30-metralis, ramulis crassissimis rugosis fusco-ferrugineis vel cinnamomeis dense atque minutissime adpresse puberulo-tomentulosis, sat dense foliatis; folia rigide coriacea crasse 1–2 cm. longe petiolata oblonga vel elliptico-oblonga 10–17 cm. longa 3.5–6.5 cm. lata obtusa vel subacuta, basi obtusa vel rotundata et interdum plus minusve inaequalia, supra lucida glabra, subtus brunnescentia ubique densissime tomento minuto arcte adpresso ochraceo vel brunnescenti obtecta, penninervia, costa subtus elevata, nervis lateralibus utroque latere ca. 9 prominentibus tenuibus angulo latiusculo adscendentibus, venis vix prominulis laxe sed inconspicue reticulatis; inflorescentiae numerosae in axillis superioribus foliorum nascentes vel ad apicem ramulorum dense multi-aggregatae pedunculo longo incluso ca. 14 cm. longae, ubique densissime tomentulosae, pedicellis crassissimis vix ultra 2 mm. longis; perianthium 5–6 mm. longum utrinque dense tomentulosum, segmentis late ovatis vel ellipticis obtusis, exterioribus bene brevioribus; filamenta pilosula, antheris subaequilonga; antherae 4-locellatae late oblongae apice obtusae; staminodia majuscula cordato-sagittata apice pilis paucis longis onusta, longe stipitata, stipite pilosulo; ovarium glabrum globosum; bacca globosa apice rotundata ca. 3.5 cm. longa (immatura?).—Guatemala: Dept. San Marcos: Top of escarpment along river, Volcán de Tacaná, between La Vega ridge and northeast slopes of the volcano, near the Mexican boundary, alt. 2,500–3,000 meters, February 20, 1940, *Julian A. Steyermark* 36207 (type in Herb. Field Mus.). Dept. El Progreso: Sierra de las Minas, hills north of Finca Piamonte, 2,400–3,300 meters, *Steyermark* 43558 (sterile). Dept. Huehuetenango: Cerro Huitz, Sierra de los Cuchumatanes, 1,500–2,600 meters, *Steyermark* 48571.

Closely related to *P. longipes* (Schlecht.) Meissn., but in that the leaves are glabrous beneath; in *P. vesticula* they are densely covered by a very minute and closely appressed tomentum, so fine that to the naked eye they appear glabrous or nearly so. The local name is Canoc, a term applied generally in western Guatemala to many trees of the Lauraceae.

Phoebe macrophylla Standl. & Steyerm., sp. nov.—Arbor humilis praeter inflorescentiam omnino glabra, ramulis gracilibus teretibus vel obtuse angulatis, vetustioribus griseo-brunneis; folia inter maxima breviter petiolata chartacea, petiolo crasso nudo 1.5–2 cm. longo; lamina ovalis vel obovato-elliptica 19–29 cm. longa 9–12 cm. lata apice rotundata vel obtusissima, rarius acuta, basi rotundata

vel obtusissima, penninervia, nervis lateralibus utroque latere ca. 13 subarcuatis adscendentibus, venis utrinque prominulis laxe reticulatis, interdum lucida, in sicco saepe subtus brunnescens; paniculae axillares longipedunculatae laxe multiflorae, interdum folia aequantes, ramis inferioribus glabris, superioribus sparse puberulis vel pilosulis, pedicellis 1.5–3 mm. longis; flores viridescentes 2.5–3 mm. longi sparse strigillosi; perianthii tubus bene evolutus late turbinatus, segmentis suborbicularibus apice rotundatis intus prope basin pilosulis; filamenta antheras fere aequantia crassa sparse pilosula vel fere glabra, antheris oblongo-quadratis apice obtusis; staminodia parva breviter stipitata oblonga vel ovata obtusa; ovarium glabrum ovoideum, stylo crasso subaequilongo; bacca ovalis vel ellipsoidea 2 cm. longa 1.5 cm. lata apice rotundata, cupula turbinato-campanulata 1 cm. lata, margine simplici.—Guatemala: Dept. Alta Verapaz: Wet forest, southeast of Tactic, alt. 1,500 meters, March, 1939, *Paul C. Standley* 70009 (type in Herb. Field Mus.). Mountains along road between Tactic and the divide on the road to Tamahú, 1,500–1,600 meters, April, 1941, *Standley* 91326.

What is probably the same species is found also in the departments of Quezaltenango and San Marcos.

Phoebe Gentlei (Lundell) Standl. & Steyerm., comb. nov.—*Persea Gentlei* Lundell, Contr. Univ. Mich. Herb. 6: 18. 1941.

Phoebe padiformis Standl. & Steyerm., sp. nov.—Arbor 15-metralis, trunco 30 cm. diam., ramulis primo subsparse adpresso-pilosis cito glabratis, gracilibus striato-angulatis; folia breviter petiolata chartacea, petiolo crassiusculo 6–10 mm. longo; lamina oblongo-elliptica vel oblanceolato-oblonga 8–11 cm. longa 3–5.5 cm. lata subito acuta vel breviter acuminata, acumine ipso obtuso, basi acuta, in statu juvenili griseo-sericea, cito glabrata et in statu adulto fere omnino glabra, subtus in nervorum axillis dense albido-barbata, penninervia, nervis lateralibus utroque latere ca. 6 arcuatis valde adscendentibus, venis in pagina superiore non elevatis, subtus vix prominulis pallidis laxe reticulatis; paniculae axillares racemiformes vel racemosae foliis duplo vel ultra breviores, ramis brevissimis, laxe pauci- vel multiflori glabri, pedicellis gracilibus glabris rectis 3–4 mm. longis; flores viridescenti-albi glabri 3 mm. longi, perianthii tubo fere nullo, segmentis late ellipticis obtusis suberectis; filamenta gracilia antheris duplo longiora et ultra glabra vel prope basin sparse pilosula, antheris parvis oblongis obtusis; glandulae filamentorum seriei tertiae magnae crassae cordatae fere sessiles; staminodia con-

spicua compressa ovata acuta breviter stipitata; ovarium globosum glabrum, stylo crassiusculo fere aequilongo.—Guatemala: Dept. Quezaltenango: Colomba, alt. 575 meters, October, 1934, *A. F. Skutch* 1367 (type in Herb. Field Mus.), 1358. Dept. Huehuetenango: Cerro Chiblac, between Finca San Rafael and Ixcán, 1,200–2,000 meters, July, 1942, *Steyermark* 49183.

Phoebe savannarum Standl. & Steyerm., sp. nov.—Arbor 9-metralis, ramulis gracillimis teretibus sordide denseque pilosulis cito glabratis et fusco-brunneis; folia parva breviter petiolata chartacea, petiolo nudo vel superne anguste marginato 3–5 mm. longo; lamina elliptica, ovato-elliptica vel oblongo-elliptica 6–8.5 cm. longa 2–3.5 cm. lata, subito longeque caudato-acuminata, acumine obtuso, basi obtusa, in sicco fusco-brunnea, supra lucida glabra, venis non elevatis, subtus tantum ad nervos sparse minute pilosula, aliter glabra, triplinervia, venis subtus sat dense prominulo-reticulatis; paniculae axillares 3–4 cm. longae pauciflorae graciliter longipedunculatae cymiformes minute pilosulae vel puberulae, pedicellis puberulis vix ultra 2 mm. longis; flores albi dense minuteque puberuli vel strigillosi 2.5 mm. longi; perianthii tubus brevis, segmentis late ellipticis obtusis subpatentibus intus dense tomentulosis; antherae extimae magnae suborbiculares apice rotundatae, filamentis brevissimis; glandulae seriei tertiae globosae sessiles; staminodia breviter stipitata late ovata obtusa conspicua; ovarium glabrum globoso-ovoideum, stylo brevi crasso.—Guatemala: Dept. Alta Verapaz: Along stream bordering forest, savanna between base of Cerro Chinajá at Sachaj and Sacacao, alt. 150–180 meters, April, 1942, *Julian A. Steyermark* 45712 (type in Herb. Field Mus.).

OXALIDACEAE

Oxalis calcicola Standl. & Steyerm., sp. nov.—Acaulis, tota planta vix ultra 5 cm. alta; bulbus 1.5–2 cm. longus 1 cm. diam. ovoideus fusco-brunneus, squamis trinerviis valde dissolutis; folia basalia numerosa palmatim 3-foliolata, petiolis filiformibus 1–2 cm. longis glabris; foliola obreniformi-cordata vulgo 4–5 mm. lata apice breviter excisa, basi latissime cuneata, lobis late rotundatis, utrinque glabra; pedunculi basales foliis breviores 1–2-flori minutissime puberuli vel glabri, pedicellis usque 4 mm. longis; sepala oblongo-lanceolata 3.5 mm. longa acuta pallide viridia, apice rubro-bicallosa; petala roseo-purpurea 7 mm. longa late cuneato-obovata; filamenta nuda vel minutissime appendiculata, longioribus sparse minute

pilosulis.—Guatemala: Dept. Huehuetenango: Rocky limestone outcrop about trees of *Juniperus Standleyi*, alt. 3,700 meters, vicinity of Chémal, Sierra de los Cuchumatanes, August 8, 1942, *Julian A. Steyermark* 50258 (type in Herb. Field Mus.).

This probably has no better claims to specific recognition than most of the other ill-conceived species that have been christened in this genus, but we have been unable to unite it satisfactorily with any of the numerous forms named from Mexico. It is noteworthy for its greatly reduced size, very numerous small leaves, and the short, only 1–2-flowered peduncles. The relationship is possibly with *O. alpina* Rose, also known from Guatemala, and with a substantial number of other habitally similar and evidently related plants of the Mexican mountains.

EUPHORBIACEAE

Euphorbia guatemalensis Standl. & Steyerm., sp. nov.—Herba perennis erecta vel saepius procumbens, interdum subscandens, saepe 1 m. longa et ultra, caulibus crassiusculis teretibus pallide viridibus sparse denseve pilis laxis patentibus pilosis vel glabratis, non articulatis; stipulae minutae glanduliformes; folia alterna tenuiter membranacea integra subtus pallidiora, longipetiolata, petiolo gracillimo vulgo 1–2.5 cm. longo; lamina late ovata vel rotundo-ovata 2.5–4.5 cm. longa 1.5–4 cm. lata, apice obtusa vel rotundata, basi rotundata et interdum angustissime subpeltata, utrinque laxe pilosa vel glabrata, nervis lateralibus subtus manifestis ca. 6-jugis angulo lato divergentibus; inflorescentia paniculam elongatam laxam pilosam foliosam efformans, ramis interdum flexuosis; involucra numerosissima cymosa longipedicellata turbinato-campanulata 2 mm. longa sat dense pilis patentibus pilosa; glandulae 5, appendice late oblonga extus strigillosa apice subtruncata et laciniato-dentata vel breviter obtuse dentata; capsula longiuscule exserta glabra 2.5 mm. lata, coccis dorso late rotundatis; semina pallida profunde foveolata.—Guatemala: Dept. Chimaltenango: Damp wooded barranco, along road between Chimaltenango and San Martín Jilotepeque, alt. 1,500–1,700 meters, December 22, 1940, *Paul C. Standley* 80907 (type in Herb. Field Mus.).

There are at hand 13 other collections of the same species from the departments of Zacapa, Jalapa, Jutiapa, Santa Rosa, Guatemala, and Chimaltenango. In general appearance the plant is much like the endemic *E. ephedromorpha* Bartlett of Guatemala, but that

differs in its conspicuously angulate stems and entire involucral appendages.

Euphorbia pantomalaca Standl. & Steyerm., sp. nov.—Herba perennis e radice crassa lignosa nascens prostrata, caulibus numerosis prostratis dense foliatis dichotomo-ramosis teretibus dense molliterque pilosulis, pilis brevibus patentibus albidis; folia opposita fere sessilia oblique ovalia vel ovali-ovata 5–9 mm. longa apice rotundata vel obtusissima, basi valde obliqua, crassiuscula, apicem versus obtuse denticulata vel interdum subintegra, utrinque densissime minuteque velutino-pilosula; involucra axillaria fere sessilia campanulata dense albido-tomentulosa vix ad 1 mm. longa; glandulae parvae transverse ovales intense rubrae, appendice pallidiore subintegra glandula latiore; capsula (bene evoluta non visa) breviter exserta densissime albo-tomentulosa; styli dense hirti.—Guatemala: Dept. Baja Verapaz: Sierra de las Minas, opposite El Rancho (Dept. El Progreso), March 10, 1905, *W. A. Kellerman* 5175 (type in Herb. Field Mus.).

Belonging to the subgenus *Chamaesyce* or *Anisophyllum*. This was determined by Millspaugh as *E. velleriflora* Boiss., but it does not resemble very closely type material of that species which was available to him. That differs greatly in its pubescence, which consists of sparse, long, rather stiff hairs; its leaves, too, are mostly acute, at least the terminal ones.

Euphorbia rutilis (Millsp.) Standl. & Steyerm., comb. nov. *Chamaesyce rutilis* Millsp. Field Mus. Bot. 2: 385. 1914.

Euphorbia senilis Standl. & Steyerm., sp. nov.—Herba perennis e radice perpendiculari lignosa nascens, caulibus numerosis gracilibus flexuosis prostratis laxe dichotomis dense pilis longis patentibus albis hirsutis; stipulae parvae in segmentos fere setaceos hirsutos divisae; folia opposita fere sessilia late ovata vel latissime ovalia, saepe fere quadrangularia plerumque 5–7 mm. longa et fere aequilata, apice late obtusa vel late rotundata, basi inaequali subcordata, crassa, obsolete undulato-dentata vel saepe integra, utrinque densissime pilis longissimis albis teneribus patentibus hirsuta; involucra parva in axillis supremis nascentia dense albo-hirsuta vix 1 mm. longa; glandulae rubro-purpureae transverse ovales, appendicibus angustis integris rubro-purpureis; capsula fere 2 mm. lata profunde sulcata, glabra vel pilis paucis longis conspersa, coccis dorso obtuse carinatis; semina obtuse tetragona glauca fere laevia, faciebus planis vel leviter concavis.—Guatemala: Dept. Huehuetenango:

Dry slopes between San Ildefonso Ixtahuacán and Cuilco, alt. 1,350–1,600 meters, August 16, 1942, *Julian A. Steyermark* 50739 (type in Herb. Field Mus.).

Referable to the subgenus *Chamaesyce* or *Anisophyllum*, and related to *E. villifera* Scheele probably as closely as to any described species. It may, indeed, be only an extreme form of that, but the very dense indument of exceedingly long, white hairs makes this highly improbable.

Euphorbia Steyermarkii Standl., sp. nov.—Herba perennis erecta ca. 30 cm. alta omnino glabra, caulibus pluribus simplicibus vel sparse ramosis, ramis subteretibus ca. 5 mm. crassis viridibus, interdum subangulatis laxe foliatis; folia breviter petiolata in vivo subcarnosa integra supra intense viridia subtus pallidiora, alterna, eis ad basin inflorescentiae ternatis, petiolo lato usque 1 cm. longo, saepe fere nullo; lamina obovata, rhombeo-obovata vel rotundo-elliptica 5–6.5 cm. longa 2.5–4.5 cm. lata, apice obtusissima vel rotundata, basi cuneata, penninervia, nervis lateralibus vulgo obscuris vel obsoletis; stipulae obsoletae; inflorescentia terminalis umbelliformis parva pauciradiata foliis multo brevior, bracteis viridibus cordato-orbicularibus vel reniformibus sessilibus 8–14 mm. latis apice late rotundatis; involucra pauca ad apices ramulorum inter bracteas nascentia sessilia glabra late campanulata ca. 2 mm. longa, lobis brevibus obovatis fimbriato-dentatis; glandulae 5 exappendiculatae suborbiculares patentes integrae; capsula longiexserta, pedicello crasso suberecto.—Guatemala: Dept. Zacapa: On rocks in dense woods, near Zacapa, alt. about 200 meters, October, 1940, *Paul C. Standley* 74673 (type in Herb. Field Mus.). Dept. Chiquimula: Along Río Tacó, between Chiquimula and Montaña Barriol, 500–1,200 meters, *Steyermark* 30671. Dept. Huehuetenango: Northwest of Cuilco, two-thirds the way up Cerro Chiquihui above Carrizal, 1,350–2,300 meters, *Steyermark* 50777.

Referable to the subgenus *Tithymalus*, but it bears no close resemblance to any species of Mexico or Central America of which I have seen material.

Euphorbia verapazensis Standl. & Steyerm., sp. nov.—Frutex scandens vel subscandens praeter inflorescentiam omnino glaber, caulibus articulatis subteretibus viridescentibus, internodiis elongatis; stipulae nullae; folia opposita vel ternata tenuiter membranacea integra, petiolo filiformi 8–15 mm. longo; lamina orbicularis vel ovali-orbicularis 15–20 mm. longa 10–17 mm. lata, apice late

rotundata vel late subemarginata, basi rotundata vel latissime cuneata, subtus paullo pallidior, nervis lateralibus subtus manifestis sed non elevatis angulo lato divergentibus; involucra in cymas parvas pedunculatas petiolis vix longiores ad nodos ternatas disposita, breviter pedicellata, ramulis pedicellisque sparse strigillosis; involucrum sparse strigillosum fere 2 mm. longum basi acutum; glandulae transverse ovales, appendice albida glabra glandula latiore obtuse denticulata, apice breviter biloba.—Guatemala: Dept. Alta Verapaz: A liana on a tree, Río Chiacté, alt. 480 meters, May 4, 1939, *C. L. Wilson* 272 (type in Herb. Field Mus.).

The only related Guatemalan species is *E. Schlechtendalii* Boiss., which differs in having glabrous involucres. Several related species with pubescent involucres are found in Mexico, but none agree well with this collection from Alta Verapaz.

Gymnanthes guatemalensis Standl. & Steyerm., sp. nov.—Frutex altus vel arbor glabra, ramis gracilibus obtuse subangulatis ochraceis lenticellatis, novellis viridibus magis angulatis, internodiis brevibus; folia magna breviter petiolata tenuiter coriacea, petiolo crasso 7–12 mm. longo supra anguste canaliculato; lamina oblongo-oblanceolata vel anguste oblanceolata 11–20 cm. longa 3.5–7 cm. lata, abrupte breviterque acuta vel acuminata, acumine obtuso, basin acutam versus sensim cuneato-attenuata, adpresse crenato-serrata, crenis glandulosis, margine prope basin glandulis majusculis non elevatis onusto, supra in sicco griseo-viridis, nervis venisque prominulis, subtus paullo pallidior, costa tenui elevata, nervis lateralibus utroque latere ca. 11, angulo lato abeuntibus prope marginem inaequaliter conjunctis, venis prominulis laxe reticulatis; spicae masculae 3.5–5 cm. longae fere ad basin floriferae sat dense multiflorae, rhachi dense puberula, bracteis late ovatis sessilibus obtusis puberulis trifloris, floribus longiuscule pedicellatis, sepalo parvo viridi late ovato; stamina in flore intermedio 3–5, in lateralibus 3; inflorescentiae femineae non visae.—Guatemala: Dept. Quezaltenango: Along quebrada, between Finca Pirineos and Finca Soledad, lower southern slopes of Volcán de Santa María, between Santa María de Jesús and Calahuaché, alt. 1,300–1,400 meters, January 5, 1940, *Julian A. Steyermark* 33501 (type in Herb. Field Mus.). Dept. San Marcos: Potrero Tojó, Volcán de Tajumulco, 1,300–1,500 meters, March, 1940, *Steyermark* 37703.

This has much larger leaves than any other species known from Central America or Mexico. In general appearance it somewhat suggests *G. longipes* Muell. Arg. of Mexico.

Mabea excelsa Standl. & Steyerm., sp. nov.—Arbor excelsa 30-metralis, trunco 65 cm. diam., omnino glabra, ramis gracillimis teretibus, novellis viridibus, internodiis brevibus vel elongatis; folia chartacea graciliter petiolata, petiolo 6–12 mm. longo; lamina anguste oblonga vel lanceolato-oblonga 8–13 cm. longa 2–4 cm. lata anguste longiacuminata vel abrupte acuminata, basi acuta vel rotundata, supra in sicco griseo-viridis sublucida, subtus glaucescens, costa tenui elevata, nervis lateralibus utroque latere ca. 17 angulo lato abeuntibus fere rectis juxta marginem inaequaliter conjunctis, nervum collectivum vix efformantibus, venis inconspicuis paucis laxe reticulatis; pedicelli fructiferi ca. 18 mm. longi crassi; columella 1 cm. longa basi et apice incrassata; capsula ca. 1.5 cm. longa densissime minute tomentulosa, valvis crassis lignosis apice acutissimis; semina crassa vix compressa olivacea lucida laevia ca. 9 mm. longa et 7 mm. lata, carunculo 1.5 mm. longo.—Guatemala: Dept. Quezaltenango: In coffee plantation with original forest trees as shade, Colomba, alt. 850 meters, December 27, 1934, *A. F. Skutch* 2008 (type in Herb. Field Mus.).

There are referred here also several sterile collections, apparently conspecific, from the departments of Santa Rosa and Retalhuleu. The type tree attained a size that is unusual in this genus; the sterile specimens were taken from much smaller ones. This species, confined to the Pacific slope of Guatemala, is clearly different from *M. occidentalis* Benth., which is common in some parts of the Atlantic watershed. The latter has uniformly smaller seeds, and the nervation of the leaves is distinct, the lateral nerves being joined remote from the margin to form an irregular but distinct collective nerve. Only fruiting material of *M. excelsa* is available, and it is likely that the complete inflorescences will afford other and better characters for separating the two Guatemalan species.

Ophellantha Steyermarkii Standl., sp. nov.—Arbuscula 6-metralis, ramis gracilibus teretibus ochraceis vel brunnescentibus, novellis pilis laxis patentibus pilosulis, internodiis elongatis sed foliis brevioribus; stipulae induratae spinescentes 2–2.5 mm. longae; folia graciliter petiolata membranacea in sicco laete viridia, petiolo 10–13 mm. longo dense pilosulo; lamina lanceolata vel lanceolato-oblonga 5–6.5 cm. longa 1.5–2.5 cm. lata, apicem subacutum versus sensim angustata, basi cuneato-acuta vel obtusa, subintegra, utrinque pilis patentibus tenerrimis pallidis sat dense pilosa, subtus paullo pallidior, nervis lateralibus utroque latere ca. 5; flores masculi non visi; pedicelli fructiferi graciles ca. 2.5 cm. longi dense pilis adscen-

dentibus albidis pilosi; sepala feminea foliacea ovata vel oblongo-elliptica ca. 17 mm. longa atque 7 mm. lata, apicem obtusum versus angustata, 5-nervia, utrinque dense pilosula, integra; styli 3, basi brevissime connati, parte libera crassissima dense adpresso-pilosula ad medium bifida, ramis crassissimis; capsula 3-locularis subglobosa densissime velutino-pilosula, pilis patentibus, ca. 12 mm. alta; semina 3 ovalia crassissima 8 mm. longa 6 mm. lata laevia lucida fusco-brunnea.—Guatemala: Dept. Huehuetenango: Trail between Santa Ana Huista and Nentón, over Río Azul and La Laguna, alt. 800–900 meters, August 27, 1942, *Julian A. Steyermark* 51398 (type in Herb. Field Mus.).

The only other species of the genus, *O. spinosa* Standl., was described from Izalco, Salvador, and is known also from Oaxaca and western Costa Rica. In it the leaves, stems, and flowers are glabrous or nearly so, the fruit (always?) 2-celled and appressed-setulose, and the united portion of the styles much longer. Since *O. spinosa* has been collected on both sides of Guatemala, it should be found in that country, but so far has not been collected there.

Pedilanthus camporum Standl. & Steyerm., sp. nov.—Frutex erectus ramosus metralis, ramis suberectis teretibus intense viridibus, novellis sparse tomentellis cito glabratis; folia decidua, non visa; cymae breves densiflorae ad apices caulium vel ramorum aggregatae; bracteae parvae cucullatae dense ochraceo-tomentosae, pedunculis usque 6 mm. longis sparse tomentulosis vel glabratis; involucrum 8–10 mm. longum prope medium 3 mm. latum dense tomentulosum vel puberulum, intus glabrum, superne ad basin fissum, inferne breviter fissum, apicibus rotundatis vel obtusissimis; appendix brevissima vix ultra 4 mm. longa basi cucullato-dilatata, labio brevi liguliformi subretuso; pedicelli masculi glabri, feminei puberuli vel tomentulosi, omnes exserti; ovarium dense albido-tomentulosum, stylo gracili 6–7 mm. longo; capsula globoso-trigona 6 mm. longa et aequilata sparse puberula; semina laevia sordido-brunnea 3–3.5 mm. longa.—Guatemala: Dept. Retalhuleu: Dry thickets, plains between Nueva Linda and Champerico, alt. 120 meters or less, February 18, 1941, *Paul C. Standley* 87781 (type in Herb. Field Mus.); also No. 87775.

There already have been described too many species in this troublesome genus, and some of them doubtless will have to be reduced, as possibly the present one. Among Central American species it may be recognized readily by its pubescent involucres,

and it does not agree in floral details with any of the species listed by Millspaugh in his account of the group.

Phyllanthus minarum Standl. & Steyerm., sp. nov.—Frutex erectus 1.5–2.5 m. altus, ramis vetustioribus teretibus ochraceis stipulis persistentibus asperatis ca. 12 mm. crassis cicatricibus magnis foliorum delapsorum onustis, novellis cum foliis folium pinnatum fingentibus elongatis multifoliatis 2–3 mm. tantum crassis albido-villosulis; stipulae plus minusve persistentes ferrugineae in statu adulto incrassatae et persistentes interdum reflexae ovato-triangulares usque 8 mm. longae acuminatae basi subcordatae; folia inferiora suborbicularia vel rotundo-deltoidea 1.5–3 cm. longa, principalia oblongo-ovata vel deltoideo-oblonga 4.5–7 cm. longa et 3 cm. lata, apice obtusa vel acutiuscula et insigniter cucullata, basi late rotundata vel infima interdum subcordata, membranacea, supra viridia ad nervos sparse puberula, subtus pallida dense pilis hyalinis pilosa; flores dioeci (?), pedicellis floris masculi capillaribus plerumque solitariis sat dense pilosis flexuosis 2–2.5 cm. longis; sepala 6 maxime inaequalia glabra, interiora 5.5 mm. longa oblongo-ovalia obtusissima, exteriora ca. 3.5 mm. longa elliptica vel oblongo-ovata subacuta; glandulae liberae columnam staminalem subaequantes late ovatae; stamina 3, filamentis in tubum brevem coalitis, antheris brevibus cohaerentibus.—Guatemala: Dept. El Progreso: Hills between Finca Piamonte and the slopes southeast of the finca, Sierra de las Minas, alt. 2,400–2,500 meters, February 4, 1942, *Julian A. Steyermark* 43385 (type in Herb. Field Mus.).

The plant has some resemblance, especially in habit, to *P. Purpusii* Brandeg., but is well marked by its abundant pubescence. The cucullate apices of the leaves are striking, but it is questionable whether this is a natural character or an abnormality.

Stillingia cruenta Standl. & Steyerm., sp. nov.—Frutex vel arbor 2–8-metralis glabra, dense ramosa, ramis gracilibus teretibus griseo-brunneis sat dense lenticellatis; petioli graciles 7–14 mm. longi; lamina elliptico-ovata vel oblongo-ovata 4–8 cm. longa 2–3.5 cm. lata longiacuminata basi rotundata coriacea lucida, margine arcte adpresso-serrulato basi utroque latere glandulis 2 majusculis onusto, subtus pallidior, nervis lateralibus utroque latere ca. 6 tenerrimis prominulis arcuatis; inflorescentiae perfectae non visae terminales crassae, bracteis patulis induratis; capsula globosa laevis vix sulcata ca. 7 mm. alta et aequilata vel paullo latior.—Guatemala:

Dept. Baja Verapaz: Dry rocky hills above Santa Rosa, in pine-oak forest, alt. about 1,500 meters, April 4, 1941, *Paul C. Standley* 91207 (type in Herb. Field Mus.).

Several other collections have been made by the same collector at the same locality in 1939 and 1941. The tree is abundant here, but among the numerous individuals examined only one capsule was found, besides a few dry old inflorescences from which flowers and fruits had fallen. Among Guatemalan species of the genus this is distinguished by its short broad leaves and large size, the others being normally only low shrubs. The leaves during the dry season are often handsomely colored with bright red.

Tetrorchidium brevifolium Standl. & Steyerm., sp. nov.—Arbor parva omnino glabra, ramulis gracilibus subteretibus ochraceis, juvenilibus vix ultra 2 mm. crassis; folia parva graciliter 4–10 mm. longe petiolata membranacea oblongo-obovata vel obovato-elliptica, 9–12 cm. longa 4–5.5 cm. lata, abrupte breviter acuminata, acumine obtuso vel subacuto, basi cuneato-attenuata, integra vel subundulata, fere concoloria, nervis lateralibus utroque latere ca. 6 teneris arcuatis prope marginem laxe conjunctis; spicae masculae gracillimae flexuosae breviter pedunculatae 3.5–7 cm. longae laxae interruptae, floribus arcte sessilibus solitariis vel pauci-aggregatis 3 mm. latis; sepala latissime ovata, apice rotundata vel obtusissima, ciliolata; stamina 3, antheris subsessilibus.—Guatemala: Dept. Alta Verapaz: In virgin forest, Rubelpec, February 11, 1939, *C. L. Wilson* 188 (type in Herb. Field Mus.).

The only other species of northern Central America, *T. rotundatum* Standl., is altogether different, with much larger, long-petiolate leaves rounded or very obtuse at the apex, thick juvenile branches, and a pubescent rachis in the inflorescence.

TILIACEAE

Carpodiptera Mariarum Standl., sp. nov.—Arbor 9-metralis, ramis crassis rimosis lenticellatis brunnescentibus, novellis minute stellato-puberulis dense foliatis; folia graciliter petiolata chartacea, petiolo 1–4.5 cm. longo puberulo vel fere glabro; lamina oblongo-ovata vel lanceolato-ovato 7–14 cm. longa 4–7 cm. lata apicem anguste obtusum versus sensim angusta, basi anguste rotundata et breviter angusteque cordata, supra glabra sublucida, venulis prominulis arcte reticulatis, subtus paullo pallidior ubique fere microscopice brunneo-lepidota, basi 5-nervia, nervis subtus prope basin

patenti-pilosis; inflorescentia magna paniculata dense ramosa multiflora, ramis suberectis densissime pilis stellatis brunnescentibus sordide tomentulosis, floribus dense aggregatis pedicellis crassiusculis usque 5 mm. longis stipatis, bracteis parvis oblongis obtusis dense stellato-tomentulosis; alabastra globoso-ovoidea densissime stellato-tomentosa obtusa; calyx 3.5 mm. longus basi rotundatus, lobis inaequalibus rotundo-ovatis obtusissimis tubo subaequalibus; petala pallide purpurea ca. 7 mm. longa cuneato-obovata late unguiculata utrinque glabra.—Mexico: María Madre Island, off the coast of the state of Nayarit, July 26, 1932, *John Thomas Howell* 10503 (type in Herb. Field Mus.; duplicate in Herb. Calif. Acad. Sci.); vernacular name "Balleta."

In Mexico this genus has been known previously from a single species, *C. Ameliae* Lundell, described from San Luis Potosí, and now known also from Tabasco and British Honduras. The other species are West Indian, and the occurrence of the genus on the western coast of Mexico could scarcely have been expected, in spite of the numerous previous records of West Indian groups from the Pacific coast. *Carpodiptera Ameliae* differs from the plant here described in its larger flowers and its acuminate leaves with less evident indument.

MYRTACEAE

Calyptranthes macrantha Standl. & Steyerm., sp. nov.—Frutex, ramis gracilibus subteretibus, novellis densissime pilis longis brunneis pilosis, cito glabratis, serius brunneis; folia petiolata subcoriacea, petiolo crasso ca. 1 cm. longo dense brunneo-piloso; lamina oblongo-elliptica 11–14 cm. longa 5–6.5 cm. lata acuta, apice ipso obtuso, basi late cuneata vel rotundata, utrinque sat dense punctata, supra glabra, costa profunde impressa, nervis obscuris, subtus pallidior, primo ut videtur brunneo-tomentosa, in statu adulto tantum ad costam brunneo-pilosa, costa insigniter elevata, nervis lateralibus prominentibus gracilibus angulo fere recto divergentibus prope marginem in nervum collectivum conjunctis; inflorescentiae terminales fasciculatae pedunculo crasso erecto incluso ca. 12 cm. longae et 9 cm. latae, subpauciflorae, ramis crassis divaricatis tomento laxo rufo densissime obtectis, floribus ad apices ramulorum aggregatis sessilibus; alabastra ellipsoidea 5 mm. longa dense laxeque rufo-tomentosa; caetera ignota.—Guatemala: Dept. Alta Verapaz: Wet mixed forest on banks of Río Frío, about 8 km. below Tactic, alt. about 1,400 meters, April 1, 1941, *Paul C. Standley* 90532 (type in Herb. Field Mus.).

Among Central American species, most of which are Guatemalan, this is noteworthy for its very large flowers. The only material collected is in bud only.

Calyptranthes Aguilarii Standl. & Steyerm., sp. nov.—Frutex omnino glaber, ramulis rigidis gracilibus tetragonis, vetustioribus cinnamomeis vel griseo-brunneis, internodiis foliis brevioribus; folia parva breviter petiolata coriacea, petiolo vix ultra 2 mm. longo; lamina ovata, elliptico-oblonga vel ovato-elliptica 2.5–3 cm. longa 1–1.5 cm. lata obtusa vel apicem obtusum versus angustata, basi acuta vel late obtusa, supra viridis dense impresso-punctata, costa basin versus impressa, nervis obsoletis, subtus pallidior, costa crassiuscula elevata, nervis venisque obsoletis; inflorescentiae numerosae axillares et ad apices ramorum fasciculatae foliis longiores, laxe pauciflorae cymoso-corymbosae, ramulis rigidis fere rectis saepe complanatis usque 10 mm. longis, floribus sessilibus vel subsessilibus; alabastra globosa glaberrima, calyce circumscisso 2.5 mm. lato; stamina longiexserta.—Guatemala: Dept. Quiché: Without special locality, in 1942, *José Ignacio Aguilar* 810 (type in Herb. Field Mus.), 1191.

Here probably belong several collections from Baja Verapaz. The species is related to *C. belizensis* (Standl.) Lundell, which has longer and relatively very much narrower leaves.

Eugenia cervina Standl. & Steyerm., sp. nov.—Arbor 7–11-metralis, ramis gracilibus teretibus cinnamomeis vel ferrugineis, internodiis elongatis rectis, in statu juvenili dense ferrugineo-tomentosis vel sericeo-tomentosis; folia majuscula coriacea breviter petiolata, petiolo crasso ca. 7 mm. longo; lamina oblongo-lanceolata vel anguste lanceolata 10–20 cm. longa 2.5–5 cm. lata, sensim subitove longe anguste acuminata vel attenuato-acuminata, basi acuta, supra viridis glabra plus minusve lucida, costa impressa, nervis manifestis sed vix prominulis, subtus brunnescens densissime adpresse sericea, costa gracili elevata, nervis lateralibus tenerrimis prominulis numerosis angulo semirecto vel paullo latiore adscendentibus; flores axillares ut videtur brevissime racemosi; bacca ut videtur brevissime pedicellata globosa 1.7–2 cm. diam. dense adpresse tomentulosa vel sericea apice calyce persistente coronata; calycis lobi 4 depresso-orbiculares 3–3.5 mm. lati apice rotundati intus tomentulosi subpatentes; semen 1 fusco-brunneum ca. 17 mm. diam. —Guatemala: Dept. Alta Verapaz: Wooded slopes near Río Icvolay, near Hacienda Yaxcabnal, 5 miles northwest of Cubilgüitz, alt.

250–300 meters, March 5, 1942, *Julian A. Steyermark* 44691 (type in Herb. Field Mus.). South of Cubilgüitz, 300–400 meters, March 3, 1942, *Steyermark* 44522.

Local name "Cacho de venado." The species is related to *E. Koepperi* Standl. of Honduras.

Eugenia chinajensis Standl. & Steyerm., sp. nov.—Frutex 1.5–4.5 m. altus, ramis gracilibus ferrugineis dense pilis longis patentibus hirsutis, internodiis brevibus vel elongatis; folia brevissime petiolata chartacea vel subcoriacea, petiolo crasso vix ad 3 mm. longo hirsuto; lamina oblonga vel anguste oblonga, 5.5–10 cm. longa 2–4 cm. lata obtuse acuta vel acuminata, basi rotundata vel obtusissima, marginibus revolutis, supra viridis sparse hirsuta vel serius glabrata, costa anguste impressa, nervis prominulis vel fere obsoletis, subtus pallidior brunnescens sat dense pilis longis patentibus hirsuta vel maturitate glabrescens, costa prominente, nervis lateralibus remotis prominulis angulo lato divergentibus; flores in axillis aggregati sessiles; calyx ad apicem baccae persistens breviter hirsutus, lobis 4 erectis rotundo-ovatis 1.5 mm. longis; bacca globosa grosse glanduloso-punctata 5 mm. alta sparse hirtella vel fere glabra; semina 1–2 pallide brunnea lucidissima laevia ca. 5 mm. diam.—Guatemala: Dept. Alta Verapaz: Bordering a savanna on the south side of Cerro Chinajá, alt. 150–180 meters, March 20, 1942, *Julian A. Steyermark* 45142 (type in Herb. Field Mus.). Savanna north of Concepción, near the Petén boundary, 100 meters, *Steyermark* 45232.

The species is noteworthy for its oblong leaves, sessile clustered fruits, and especially the dense spreading hirsute pubescence.

Eugenia jutiapensis Standl. & Steyerm., sp. nov.—Frutex, ramis teretibus, junioribus pilis longiusculis patentibus dense pilosis gracilibus, internodiis foliis multo brevioribus; folia crasse membranacea brevissime petiolata, petiolo crasso usque 4 mm. longo dense piloso; lamina oblongo-elliptica 8.5–11.5 cm. longa 4–5.5 cm. lata breviter obtuso-acuminata, basi anguste rotundata, supra in sicco griseo-viridis epunctata ad costam prominulam puberula vel breviter pilosula, aliter glabra, nervis venisque prominulis conspicuis, subtus fere concolor ubique breviter patenti-pilosa, costa gracili elevata, nervis lateralibus 8–9-jugis tenerrimis angulo semirecto vel latiore adscendentibus arcuatis irregularibus prominentibus, venis quoque prominentibus laxe reticulatis, vix punctata; flores ad nodos defoliatos fasciculati, pedicellis gracillimis plerumque 2–2.5 cm. longis

dense pilis brevibus patentibus pilosis, bracteolis late ovatis subacutis glabratis ciliatis; hypanthium obovoideum densissime albido-pilosum 3.5 mm. longum; sepala 4 inaequalia pallida ovalia 5 mm. longa subcucullata apice rotundata, intus glabra extus puberula; discus 2.5 mm. latus glaber; stylus gracilis ca. 7 mm. longus glaber.—Guatemala: Dept. Jutiapa: Jutiapa, December 21, 1938, *John R. Johnston* 1480 (type in Herb. Field Mus.).

There is some uncertainty as to just where this plant was collected, but at least it was probably in the Department of Jutiapa, and most probably along the road between Jutiapa and Cuilapa, in the mountains near the boundary between the departments of Jutiapa and Santa Rosa. The species is related to the Costa Rican *E. oreinoma* Berg, which has larger, relatively broader leaves that are merely obtuse, not rounded, at the base, and on much longer petioles.

Eugenia papalensis Standl. & Steyerm., sp. nov.—Arbor 10-metralis, ramis crassis subteretibus rimosis brunneis, novellis sparse hirtellis, internodiis elongatis; folia magna glabra breviter petiolata rigido-coriacea, petiolo crasso ca. 1 cm. longo; lamina oblonga vel elliptico-oblonga 12–15 cm. longa 6–7.5 cm. lata, apice rotundata vel anguste rotundata, basi rotundata vel obtusissima, supra in sicco griseo-viridis, sublucida, costa subimpressa, nervis obscuris, subtus paullo pallidior lutescens, costa crassiuscula elevata, nervis lateralibus obscuris, venis obsoletis, sparse nigro-punctata; fructus (delapsus tantum visus) globosus 2–2.3 cm. longus basi et apice late rotundatus, dense glanduloso-papillosus glaber; calyx ad apicem fructus persistens, lobis rotundatis ca. 3 mm. longis puberulis apice rotundatis subpatentibus; semen 1 globosum fere 2 cm. diam.—Guatemala: Dept. Huehuetenango: Cumbre Papal, between summit and La Libertad, alt. 1,800–3,000 meters, August 19, 1942, *Julian A. Steyermark* 50964 (type in Herb. Field Mus.).

Local name "Guayabillo." The material is imperfect, consisting of a leafy branch and several detached fruits. It is evidently a *Eugenia*, and clearly different from any other species known from Central America, distinguished by its relatively large, obtuse or rounded, thick-coriaceous leaves and large fruits.

Eugenia patalensis Standl. & Steyerm., sp. nov.—Frutex 3-metralis vel arbuscula, ramis crassis teretibus griseis vel ferrugineis, novellis rufo-puberulis cito glabratis, internodiis brevibus vel elongatis; folia modica breviter petiolata rigido-coriacea, petiolo crasso

7–10 mm. longo glabro; lamina elliptico-oblonga 6.5–9 cm. longa 3–3.5 cm. lata acuta, acumine ipso obtuso, basi acuta, glabra, supra intense viridis vulgo lucida, costa subimpressa, nervis interdum manifestis sed vix prominulis, subtus pallidior, costa tenera elevata, fusco-punctata, nervis manifestis sed vix prominulis, venis obsoletis; flores in axillis aggregati fasciculati vel brevissime racemosi, pedicellis crassis vix 1.5 mm. longis vel nullis puberulis; hypanthium minute puberulum; calyx parvus vix 2.5 mm. latus glanduloso-punctatus puberulus vel glabratus, lobis brevibus apice late rotundatis; stylus gracilis glaber 4–5 mm. longus; fructus subglobosus 6–7 mm. longus (immaturus) vel ultra, calyce persistente patulo coronata.—Guatemala: Dept. Baja Verapaz: On brushy slope, region of Patal, alt. about 1,600 meters, March 30, 1939, *Paul C. Standley* 69568 (type in Herb. Field Mus.); April 4, 1941, *Standley* 91122, 91118. Mountain side north of Santa Rosa, damp forest, about 1,650 meters, March 30, 1939, *Standley* 69899.

Eugenia rheedioides Standl. & Steyerm., sp. nov.—Frutex vel arbor omnino glabra, ramis teretibus fusco-brunneis vel griseo-brunneis rimosis, novellis tetragonis, internodiis brevibus vel elongatis; folia inter minora breviter petiolata subcoriacea, petiolo 3–4 mm. longo; lamina elliptico-lanceolata, oblanceolata vel oblongo-lanceolata 4–7.5 cm. longa 1.5–2.5 cm. lata abrupte acuminata vel anguste longiacuminata, basi cuneato-acuminata, saepe supra medium latissima, supra intense viridis lucida, costa anguste impressa, nervis venisque manifestis sed non elevatis, subtus paullo pallidior, costa gracili elevata, nervis lateralibus numerosis tenerrimis prominulis angulo acuto adscendentibus, venis vulgo obsoletis; inflorescentiae terminales vel ex axillis supremis nascentes cymosae triflorae vel pauciflorae folia vix aequantes pedunculatae, flore terminali sessili, lateralibus longipedunculatis; bracteolae parvae ovatae late patentes; alabastra glabra 5 mm. longa pyriformia, hypanthio turbinato basi acuto; calycis segmenta rotundo-ovata apice rotundata dense punctata coriacea; petala ca. 5 mm. longa vix punctata.—Guatemala: Dept. Quiché: Without special locality, in 1942, *José Ignacio Aguilar* 1757 (type in Herb. Field Mus.), 1754.

An ally of *E. fragrans* (Swartz) Willd., but conspicuously different in the acuminate or long-acuminate leaves and glabrous inflorescence.

Eugenia sasoana Standl. & Steyerm., sp. nov.—Frutex 4.5 m. altus saltem in statu adulto omnino glaber, ramis gracillimis teretibus griseis vel pallide brunneis, internodiis plerumque elongatis ad

nodos complanatis; folia inter minora chartacea breviter petiolata, petiolo gracili 4–5 mm. longo; lamina lanceolata vel lineari-lanceolata 4.5–6.5 cm. longa 8–15 mm. lata, apicem versus longe attenuata, apice ipso obtuso, basi acuta vel subobtusa, supra in sicco cinereo-viridis vel laete viridis dense glanduloso-punctata, costa plana, venis obsoletis, subtus pallidior dense punctata, costa gracillima elevata, nervis lateralibus obscuris vix prominulis angulo acuto adscendentibus; flores breviter racemosi, racemis paucifloris, pedicellis fructiferis brevibus crassis; calyx ad apicem baccae persistens glaber 3 mm. longus dense punctatus, segmentis rotundo-ovatis obtusissimis vel apice rotundatis subcucullatis suberectis; bacca ovalis 8–12 mm. longa dense papilloso-punctata glabra basi et apice rotundata.—Guatemala: Chiquimula: Rocky slopes, Montaña Castilla, vicinity of Montaña Cebollas, along Río Lucía Saso, 3 miles southeast of Quezaltepeque, alt. 1,200–1,500 meters, November 6, 1939, *Julian A. Steyermark* 31327 (type in Herb. Field Mus.).

Known only from incomplete and rather unsatisfactory material; noteworthy for the small, very narrow leaves and the rather large fruit, conspicuously longer than broad.

Eugenia savannarum Standl. & Steyerm., sp. nov.—Arbor 7-metralis, ramis teretibus fusco-brunnescentibus, novellis dense brunneo-tomentosis, internodiis plerumque brevibus; folia majuscula petiolata coriacea lucida, petiolo crasso 10–14 mm. longo glabrato; lamina elliptica vel saepius oblongo-elliptica 7.5–13 cm. longa 4–6.5 cm. lata subacuta vel obtusa, apice ipso obtuso, basi acuta vel late cuneata, saltem in statu adulto glabra, supra intense viridis, costa anguste profundeque impressa, nervis obsoletis vel vix manifestis, subtus in sicco brunnescens, costa gracili elevata, nervis lateralibus numerosis tenerrimis angulo latiusculo divergentibus rectis juxta marginem in nervum collectivum conjunctis, venis prominulis laxe reticulatis; inflorescentiae axillares breviter racemosae petiolis subaequales pauciflorae dense rufo-tomentosae, pedicellis brevibus crassis vel fere nullis, interdum usque 3 mm. longis, bracteolis sejunctis ovatis acutis dense tomentosis persistentibus; hypanthium dense rufo-tomentosum obovoideo-globosum; calyx patens extus intusque dense tomentosus, segmentis rotundo-ovalibus apice rotundatis subaequalibus 4 mm. longis et fere aequilatis; receptaculum 3 mm. latum tomentosum vel glabratum, stylo ca. 6 mm. longo glabro.—Guatemala: Dept. Alta Verapaz: Savanna between base of Cerro Chinajá at Sachaj and Sacacao, alt. 150–180 meters, April 6, 1942, *Julian A. Steyermark* 45710 (type in Herb. Field Mus.).

Psidium Solisii Standl., sp. nov.—Ut videtur frutex dense ramosus, ramis teretibus vel in statu juvenili obtuse compresso-quadrangularibus glabris gracilibus brunnescentibus vel serius griseis sat dense foliatis, internodiis brevibus; folia parva brevissime petiolata subcoriacea, petiolo vix ultra 2 mm. longo; lamina elliptico-oblonga vel lanceolato-oblonga 2.5–4.5 cm. longa 1–1.8 cm. lata apicem obtusum versus paullo angustata, basi acuta, glabra, supra sublucida, costa nervisque prominulis vel fere planis, subtus in sicco fusco-brunnescens, densiuscule punctata, costa elevata, nervis lateralibus ca. 7-jugis angulo acuto adscendentibus prominulis vel obsoletis, margine saepe revoluto; pedunculi axillares 1–3-flori 5–15 mm. longi graciles sed rigidi glabri glanduloso-punctati; calyx deciduus, ut videtur inaequaliter ruptus; bacca globosa 10–12 mm. diam. glabra basi rotundata; semina 1–2 globosa vel semiglobosa brunnea 6–7 mm. lata.—Costa Rica: Hatillo, Finca de J. F. Rojas, alt. 1,100 meters, December 26, 1936, *F. Solís* 509 (type in Herb. Field Mus.). La Palma de San Ramón, January 12, 1928, *A. M. Brenes* 5989.

Local name "Pizco." The two collections were determined at first as *P. Sartorianum* (Berg) Ndzu., a more northern species to which this plant is closely related. It is conspicuously distinct, however, in its very obtuse, narrow leaves.

MELASTOMACEAE

Diolena calciphila Standl. & Steyerm., sp. nov.—Herba vel suffrutex humilis erectus vel basi decumbens simplex, usque ad 20 cm. altus, caule nodoso paleaceo-strigoso, internodiis brevibus; folia crasse membranacea subaequalia vel jugi saepe valde inaequalia, graciliter petiolata, petiolis inaequalibus ad 2 cm. longis, adpresse paleaceo-strigosis; lamina elliptica, ovato-elliptica vel oblongo-lanceolata 4–7.5 cm. longa 1.5–4.5 cm. lata, acuta vel anguste acuminata, basi rotundata usque acuta 3–5-plinervia, supra viridis glabra, subtus pallidior ad nervos venasque strigosa, subintegra vel serrulata; inflorescentia terminalis cum pedunculo usque ad 7 cm. longa pauciflora, rhachi glabra vel glabrata, pedicellis crassiusculis ad 3 mm. longis sparse furfuraceis vel glabris; hypanthium 2–2.5 mm. longum turbinatum adpresse et vulgo sparse paleaceo-strigosum; calycis lobuli brevissimi depressi membranacei, dentibus exterioribus viridibus subulatis subpatentibus 1.5–2 mm. longis; petala alba 8 mm. longa; antherae oblongae 1.2 mm. longae; connectivi calcaria 2 gracillima erecta antheram aequantia; capsula

7 mm. lata.—Guatemala: Dept. Quiché: Steep bank in dense forest, "Zona reina," alt. 750 meters, December 2, 1934, *A. F. Skutch* 1811 (type in Herb. Field Mus.). Dept. Alta Verapaz: In forest, Cobán, 1,350 meters, May, 1908, *Tuerckheim* II.1716A. Dense wet limestone forest near Chirriacté, on the Petén Highway, about 900 meters, April, 1941, *Standley* 91630, 91894, 91617.

So far as we know, the genus *Diolena* has not been reported previously from North America, the other representatives of the group, 10 or fewer, being native in northwestern South America. It was surprising to find in studying the rather extensive Guatemalan material of *"Triolena"* that five distinct species were represented, in place of the single one that had been known heretofore. Further study showed that three of these distinct forms actually were referable to *Diolena* rather than *Triolena*. These two genera are exactly alike in general appearance, so far as most of their species are concerned, and are separated only upon the basis of the number of appendages of the anther connective, three in *Triolena* and two in *Diolena*. In view of the uniformity in habit and general appearance of the plants, it would seem that this difference is purely an artificial one, and that it would be more sensible to consider all as constituting a single genus of closely related species. So far as the Guatemalan species of the two groups are concerned, the Triolenas may be recognized by having the hypanthium covered with very long, spreading hairs, while in *Diolena* the indument consists of sparse, short, closely appressed hairs, or sometimes is almost wholly wanting. Two of the collections cited above under *D. calciphila* have been distributed as *Triolena paleacea* Donn. Smith, to which this plant does bear a close resemblance.

Diolena roseiflora Standl. & Steyerm., sp. nov.—Herba vel suffrutex erectus vel basi decumbens simplex vix ultra 30 cm. altus, caule crasso subtereti densissime paleaceo-strigoso, paleis angustissimis brunnescentibus, internodiis brevibus vel aliquanto elongatis; folia jugi aequalia vel valde inaequalia, membranacea, petiolis subaequalibus vel inaequalibus 1–6.5 cm. longis, dense furfuraceo-strigosis; lamina elliptico-oblonga vel ovato-oblonga 6–20 cm. longa 2.5–8.5 cm. lata acuminata vel longiacuminata, basin versus paullo cuneato-angustata, basi ipsa anguste rotundata vel obtusa, 5-plinervia, supra sparse setoso-hirsuta, subtus pallidior, ad nervos venasque dense strigosa, integra vel subintegra; racemi terminales cum pedunculo elongato 6–13 cm. longi, rhachi paleaceo-strigosa vel fere omnino glabra, pedicellis crassis usque 3 mm. longis; hypan-

thium cum sepalis 2–2.5 mm. longum campanulatum dense minute furfuraceo-strigillosum; sepala brevissima vel fere nulla, exteriora 0.5–1 mm. longa subulata; petala 6–7 mm. longa glabra roseo-purpurea vel intense rosea; connectivi appendices 2 gracillimi antheram aequantes; antherae oblongae ca. 1.2 mm. longae; capsula 8 mm. lata.—Guatemala: Dept. Izabal: Along Río Tameja, Cerro San Gil, alt. 50 meters, December 24, 1941, *Julian A. Steyermark* 41819. Between Escoba and Montaña Escoba, across the bay from Puerto Barrios, *Steyermark* 39317. Wet forest, Escoba, May, 1939, *Standley* 72900, 72943.

In most respects this is similar to *D. calciphila*, but it differs from that in the hirsute upper surface of the leaves, usually much larger leaf blades, and rose-purple rather than white petals.

Diolena stenophylla Standl. & Steyerm., sp. nov.—Suffrutex erectus rigidus 15–30 cm. altus simplex vel saepe superne pauciramosus, caule superne gracili dense foliato dense pilis brevibus brunnescentibus furfuraceo-strigoso, subtereti; folia inter minora jugi subaequalia vel valde inaequalia, membranacea, graciliter petiolata, petiolo 1 cm. longo vel vulgo multo breviore furfuraceo-strigilloso; lamina lineari-lanceolata usque anguste lanceolata vel anguste oblanceolata plerumque 4–7 cm. longa et 7–15 mm. lata, longe attenuata, apice ipso acuto, basin versus vulgo sensim attenuata usque subobtusa, 3-plinervia et supra basin conspicue et fere aequaliter penninervia, remote serrulata, supra intense viridis sparse setoso-hirsuta, subtus pallidior sparse setoso-hispida ad nervos strigosa; racemi terminales vel ex axillis supremis nascentes pauciflori folia aequantes vel eis breviores, rhachi sparse furfuraceo-strigillosa vel fere glabra, pedicellis crassis usque 3 mm. longis; hypanthium campanulatum 2–2.5 mm. longum dense furfuraceo-strigillosum; sepala interiora brevissima depressa, exteriora triangulari-subulata ca. 1.5 mm. longa suberecta; petala alba vel roseo tincta glabra 7–8 mm. longa; antherae 1.2 mm. longae; connectivi appendices 2 filiformes erecti antheram subaequantes; capsula 7 mm. lata.—Guatemala: Dept. Huehuetenango: Common on rocks in rich wet forest, between Maxbal and the lake to the southeast, alt. about 1,500 meters, July 15–16, 1942, *Julian A. Steyermark* 48728 (type in Herb. Field Mus.). Alta Verapaz: Between Hacienda Yaxcabnal along Río Icvolay and Río Apia, northwest of Cubilgüitz, 210–250 meters, March, 1942, *Steyermark* 45007, 44767. Wooded slopes near Río Icvolay, near Hacienda Yaxcabnal, 250–300 meters, March, 1942, *Steyermark* 44702.

From the other Guatemalan species this is distinguishable at once by the small, very narrow leaves, which are thinly but conspicuously hirsute on the lower surface. The leaves are pale green and rose-colored beneath, the calyx and hypanthium pale rose, and the pedicels rose-lavender.

Conostegia volcanalis Standl. & Steyerm., sp. nov.—Frutex vel arbor 6–9-metralis, ramulis crassis dense stellato-furfuraceis, tomento brunnescenti; folia firme membranacea majuscula longipetiolata conspicue saltem supra medium undulato-dentata, petiolo gracili furfuraceo-puberulo vel glabrato 2.5–4 cm. longo; lamina elliptica vel late elliptica 12–24 cm. longa 6–15 cm. lata breviter cuspidato-acuminata, basi acuta vel late cuneata, 5-plinervia, nervis interioribus 1–2.5 cm. supra basin laminae nascentibus, supra glabra, subtus ad nervos venasque densiuscule stellato-tomentosa vel glabrata; paniculae breviter longeve pedunculatae folia subaequantes divaricato-ramosae multiflorae stellato-puberulae vel glabratae, floribus longiuscule pedicellatis; alabastra subglobosa 7–9 mm. longa et fere aequilata, apice rotundata et obscure apiculata, sparse minutissime furfuracea vel fere omnino glabra; antherae anguste oblongae 3 mm. longae; ovarium apice profunde depressum glabrum ca. 12-loculare.—Guatemala: Dept. Quezaltenango: Damp forest, Chiquihuite, alt. 1,410 meters, March 8, 1939, *Paul C. Standley* 68152 (type in Herb. Field Mus.). Above Mujuliá, damp dense mixed forest on white sand slopes, 1,800 meters, February, 1941, *Standley* 85672. Southeastern slopes of Volcán de Santa María, 1,300–1,400 meters, *Steyermark* 34333. Dept. San Marcos: Southern slopes of Volcán de Tajumulco, 1,400–1,700 meters, *Steyermark* 37295.—Mexico: Chiapas: Mount Ovando, *E. Matuda* 2644; Laguna, Salina Montecristo, *Matuda* 2049.

This plant is related to *C. sphaerica* Triana, but that, according to photographs and authentic material available for comparison, is very different in its small leaves and flowers. Also related is *C. Bernoulliana* Cogn. of Guatemala, which is distinguished by its much narrower, essentially triplinerved leaves.

Monochaetum guatemalense Standl. & Steyerm., sp. nov.—Herba perennis erecta et ad 30 cm. alta vel saepe decumbens vel procumbens et late laxeque ramosa, caulibus fusco-brunneis sparse strigosis vel fere glabris, ad angulos subalatis; folia laxa tenuia graciliter petiolata, petiolo 3–10 mm. longo strigoso; lamina ovata vel late ovata 1–2.5 cm. longa 6–10 mm. lata, acuta vel obtusa, basi

late rotundata vel obtusa, 5-plinervia, utrinque sparse strigosa, subtus vix pallidior, integra; flores pauci solitarii axillares vel ramulos breves terminantes, pedicellis pilis eglandulosis sparse setoso-strigosis; hypanthium in statu fructifero campanulatum 5–8 mm. longum sparse pilis rigidiusculis basi tuberculatis patentibus glanduloso-hirsutum; sepala persistentia triangulari-oblonga 6 mm. longa purpureo-rubra acuminata pectinato-ciliata glabra; petala roseo-purpurea 9 mm. longa; stylus 9 mm. longus; antherae longiores 4 mm. longae.—Guatemala: Dept. Huehuetenango: Vicinity of Quetzal, alt. 2,300 meters, July 10, 1942, *Julian A. Steyermark* 48512 (type in Herb. Field Mus.); Cerro Huitz, between Barillas and Mimanhuitz, Sierra de los Cuchumatanes, 1,600–2,600 meters, *Steyermark* 48541. Dept. San Marcos: Río Vega, near San Rafael and Guatemala-Mexico boundary, Volcán de Tacaná, 2,500–3,000 meters, *Steyermark* 36230.

All the collections, unfortunately, are in fruit, so that the stamen characters can not be determined, and the systematic position of the species is therefore uncertain, but the plant is clearly unlike any of the five other species of *Monochaetum* known from Guatemala, nor can it be associated with any of the exclusively Mexican ones. In its appressed pubescence it suggests *M. Deppeanum* (Schlecht. & Cham.) Naud., but that is altogether different in its erect habit and many-flowered inflorescences. The closest relative is probably *M. tenellum* Naud., in which the stems are conspicuously hirsute with spreading hairs and the leaves proportionately narrower.

Rhynchanthera medialis Standl. & Steyerm., sp. nov.—Frutex vel suffrutex ramosus, ramulis sat gracilibus subteretibus glabris; folia membranacea graciliter petiolata saepe in axillis foliis parvis reductis ca. 1 cm. longis breviter petiolatis comitata, petiolo gracili 10–18 mm. longo; lamina oblongo-ovata 6–7.5 cm. longa 2.5–3.5 cm. lata acuminata vel longiacuminata, basi anguste rotundata et breviter cordata 5-plinervia subintegra, supra glabra nervis anguste impressis, subtus prope basin albido-barbata, aliter glabra; inflorescentia alaris cymoso-corymbosa in statu fructifero 9 cm. lata multiflora, capsulis usque ad 1 cm. longe pedicellatis glabris; hypanthium in statu fructifero campanulatum glabrum 7–8 mm. longum; sepala in statu fructifero recurva linearia acuta vix ultra 3 mm. longa; semina cuneiformia 1.2 mm. longa.—Guatemala: Dept. San Marcos: Along Quebrada Suchaté, between Canjulá and La Unión Juárez, near southeast portion of Volcán de Tacaná, alt. 2,000–3,000 meters,

February 22, 1940, *Julian A. Steyermark* 36386 (type in Herb. Field Mus.).

While it is reprehensible to describe as new a member of this family in which flower characters are unknown, it is desirable to have a name for this plant. It is evidently a *Rhynchanthera* and the only representative of that genus known in Guatemala. At present there are known from Central America two species of the genus, one that has been found in both Mexico and Panama, the other in Costa Rica and Panama. Both of them differ from the Guatemalan plant in having the leaves abundantly hirsute or pilose on both surfaces, and in having abundant pubescence on the branches.

Triolena izabalensis Standl. & Steyerm., sp. nov.—Herba vel suffrutex erectus vel decumbens ca. 30 cm. altus simplex, caule nodoso dense pilis longis patentibus fulvido-hirsuto, internodiis brevibus; folia membranacea inaequaliter petiolata magna, petiolo gracili 0.5–4 cm. longo dense hirsuto; lamina obovato-oblonga vel anguste elliptico-oblonga 9–20 cm. longa 4.5–7 cm. lata, acuta vel breviter acuminata, basin versus paullo angustata, basi ipsa rotundata et emarginata vel breviter cordata, saepe inaequali, serrato-denticulata, 5–7-plinervia, nervis interioribus usque 3 cm. supra basin laminae nascentibus, supra sparse setoso-hirsuta, subtus paullo pallidior sparse denseve pilis fulvescentibus setoso-hirsuta, ad nervos adpresso-setosa; inflorescentiae cum pedunculo brevi vel elongato 3–13 cm. longae secundiflorae multiflorae, rhachi dense patenti-hirsuta, pedicellis crassis usque 3 mm. longis; hypanthium sat dense pilis longissimis patentibus indutum; petala alba glabra ca. 8 mm. longa; hypanthium in statu fructifero 7 mm. latum; connectivi appendices 3 filiformes valde adscendentes.—Guatemala: Dept. Izabal: In banana plantation near headwaters of Río Lámpara, February 7, 1939, *C. L. Wilson* 175 (type in Herb. Field Mus.). Río Dulce, common on shaded lower wooded slopes of bluffs, Río Dulce above Livingston, April, 1940, *Steyermark* 38441.

The only other Guatemalan species of the genus is *T. paleolata* Donn. Smith in which all the pubescence of the lower leaf surface consists of closely appressed hairs.

ERICACEAE

Arctostaphylos pyrifolia (Donn. Smith) Standl. & Steyerm., comb. nov. *A. arguta* var. *pyrifolia* Donn. Smith ex Loes. Bull. Herb. Boiss. II. 3: 319. 1903. *Comarostaphylis pyrifolia* Small, N. Amer. Fl. 29: 91. 1914.

Pernettia saxicola Standl. & Steyerm., sp. nov.—Fruticulus repens ramosus, ramis gracillimis vix 1 mm. crassis minute puberulis ferrugineis laxe foliatis; folia parva brevissime petiolata subcoriacea oblongo-lanceolata, ovato-oblonga vel inferiora ovata, plerumque 6–9 mm. longa et usque ad 3 mm. lata, obtusa vel subacuta, basi obtusa vel rotundata, crenata, glabra, supra lucida, costa plana vel subimpressa, subtus paullo pallidiora, costa prominente, nervis obsoletis; flores axillares solitarii breviter crasseque pedicellati, pedicellis minutissime puberulis vel glabris bracteis longioribus, bractea glabra eciliata; sepala lanceolato-oblonga ca. 2.2 mm. longa acuminata glabra eciliata; corolla alba ovoideo-urceolata 3 mm. longa glabra.—Guatemala: Dept. San Marcos: Creeping among crevices of rocks on summit of dome, Volcán de Tacaná, alt. about 4,400 meters, February 19, 1940, *Julian A. Steyermark* 36110 (type in Herb. Field Mus.).

In his account of the Mexican species of *Pernettia*, Camp (Bull. Torrey Club 66: 22. 1939) recognized six species in place of the one recognized by Sleumer in his treatment of the genus. The six are very closely related and it is suspected that Sleumer was nearly right in his treatment of them. The present plant is probably a better species than any of the five extra ones discussed or described by the former author. While it is related, according to Camp's key, to *P. buxifolia* Mart. & Gal., it is very different from all Mexican and Guatemalan species in its repent habit, almost filiform stems, and very small leaves.

Vaccinium haematinum Standl. & Steyerm., sp. nov.—Frutex 4.5 m. altus, ramis subteretibus fusco-brunneis, novellis puberulis vel glabratis, internodiis brevibus; folia alterna rigide coriacea breviter petiolata lucida in sicco plus minusve brunnescentia, petiolo crasso 4–5 mm. longo puberulo vel glabrato; lamina elliptica vel oblongo-elliptica 4–6.5 cm. longa 1.5–4 cm. lata obtusa, basi acuta vel late cuneata, obsolete remoteque adpresso-crenata vel fere integra, glabra, costa supra plana vel late breviterque impressa, nervis venisque obsoletis, subtus paullo pallidior epunctata, costa crassiuscula prominente, nervis lateralibus ca. 7-jugis prominulis angulo acuto adscendentibus fere rectis vel irregularibus, venis prominulis laxe reticulatis; flores in axillis brevissime racemosi, racemis paucifloris vix ultra 1 cm. longis sparse puberulis, rhachi brevissima, pedicellis crassiusculis ca. 4 mm. longis, bracteolis pedicelli paullo infra mediam insertis lanceolatis adpressis; hypanthium sparse minuteque puberulum vel fere glabrum; calycis lobi

deltoidei 1 mm. longi acuti; bacca rubra 5 mm. longa glabra.—Guatemala: Dept. Huehuetenango: Cerro Huitz, between Mimanhuitz and Yulhuitz, Sierra de los Cuchumatanes, alt. 1,500–2,600 meters, July 14, 1942, *Julian A. Steyermark* 48572 (type in Herb. Field Mus.).

Here probably belongs *Steyermark* 42836 from Sierra de las Minas, Zacapa, at 2,000–2,600 meters. This specimen bears flower buds only, in a very immature stage. Its leaves are lanceolate or lance-oblong, varying to elliptic-oblong, and are mostly 3.5–4.5 cm. long and only 1–1.5 cm. wide. It is possible that two species are represented by these collections, but the variation in foliage is quite within limits that may be expected in this family. Because of the incomplete nature of the available material, we are unable to suggest any close relative of this plant, and it does not suggest any other species of Mexico or Central America. The texture and general appearance of the leaves are reminiscent of those of *V. cordatum* Hemsl., but that has an elongate racemose inflorescence and, of course, conspicuously cordate leaves.

RUBIACEAE

Borreria Dussii Standl. Field Mus. Bot. 11: 185. 1936.—Recently, in going over some type photographs received from the Paris herbarium, the writer was chagrined to find one illustrating the type of *Borreria scandens* DC. This clearly represents the Guadeloupe plant described recently as *Borreria Dussii*. Investigation of the literature relating to the former name shows, however, that *B. Dussii* is a valid name (unless some other intervening one has been overlooked), and that De Candolle's name can not be applied to the Guadeloupe species.

The type photograph (Neg. 33551) illustrates a specimen collected in Guadeloupe by Bertero. This specimen is cited by De Candolle, and agrees with his description. However, he cites as synonyms "Diodia sarmentosa è Guadalupâ Spreng. syst. 1. p. 405. Sperm. scandens Gmel. syst. 235.—Sloan. jam. hist. 1. t. 28. f. 4." It is apparent that De Candolle's name is intended to be a transfer of Gmelin's. The *Index Kewensis* cites no *Spermacoce scandens* Gmel. but does list *Spermacoce scandens* Aubl. Pl. Guian. 1: 61. 1775. Gmelin's name was published in the work cited but on page 234 (not 235), and he makes no mention of Aublet's earlier publication of the same name. However, both Aublet and Gmelin cite the Sloane illustration, upon which one may assume both based their new

species. There is no reason for supposing that Gmelin had any other basis for his new name, but Aublet describes a Guiana plant that he associated with Sloane's illustration.

The Sloane figure is a wretched one, of a sterile plant of no distinctive characters, and might represent almost any small, slender plant with opposite, rounded leaves. Moreover, it pertains to a Jamaica plant, and there is no reason for supposing that *Borreria Dussii* grows in Jamaica. The Sloane plate is not mentioned, apparently, by Fawcett and Rendle in the *Flora of Jamaica*. I have no suggestions to offer as to the identity of *Spermacoce scandens* Aubl., which is not listed, either, in *Flora Brasiliensis*. Whatever it may be, whether based upon Guiana material or upon Sloane's plate, it is clearly not *Borreria Dussii*, and the latter remains a valid name, with *Borreria scandens* DC., non *Spermacoce scandens* Aubl., as a synonym.

COMPOSITAE

Aster bimater Standl. & Steyerm., sp. nov.—Herba erecta perennis, e radice crassa lignosa nascens, caulibus 1–pluribus gracilibus inferne simplicibus superne laxe racemoso-paniculatis dense pilis albis patentibus pilosis vel hirsutis, sat dense foliatis, inferne brunnescentibus; folia parva patentia linearia vel oblongo-linearia plerumque 1–2.5 cm. longa 1–2.5 mm. lata acuta vel obtusa et mucronata, integerrima, sessilia, basi obtusa non amplexicaulia, utrinque sat dense pilis albis patentibus hirsutula, 1-nervia; inflorescentia laxe paniculata, ramis gracilibus adscendentibus, ramis monocephalis, sparse denseve foliatis, foliis reductis patentibus, capitulis breviter vel longiuscule pedunculatis, pedunculis glanduloso-puberulis; involucrum hemisphaericum 6–7 mm. altum et ca. 8 mm. latum; phyllaria gradatim pauciseriata linearia inferne albida superne herbacea subobtusa mucronato-apiculata glanduloso-puberula, apicibus plus minusve patentibus; radii ligulae 7–8 mm. longae 1.5 mm. latae; disci corollae gracillimae 5.5 mm. longae glabrae breviter 5-dentatae; achaenia 1.8 mm. longa sparse antrorso-hispidula, pappi setis brunnescentibus 6 mm. longis.—Mexico: Chiapas: Hillsides near Hacienda Monserrate, May, 1927, *C. A. Purpus* 12091 (type in Herb. Field Mus.); September, 1923, *Purpus* 9071.—Guatemala: Dept. Huehuetenango: Aguacatán road, 10–15 km. east of Huehuetenango, alt. about 1,900 meters, January, 1941, *Standley* 81931, 82065.

Related to *A. moranensis* HBK. (*A. Lima* Lindl.) of Mexico, which differs in the appressed pubescence of stems and leaves,

strongly ciliate phyllaries, and erect or strongly ascending leaves of the flowering branches.

Cacalia pinetorum Standl. & Steyerm., sp. nov.—Herba erecta robusta ca. metralis inferne simplex superne laxe ramosa, caule tereti crasso ima basi dense lanoso, ubique sat dense pilis albis laxis longiusculis plurilocularibus villoso, striato; folia radicalia ca. 25 cm. longe petiolata, lamina ambitu suborbiculari ca. 18 cm. lata fere ad medium 7-loba, supra sparse villosa, subtus pallida sat dense longivillosa vel in statu juvenili tomentosa, membranacea, lobis late oblongis vel oblongo-ovatis obtusis vel subacutis undulatis vel sublobatis, interdum inaequaliter remoteque dentatis; inflorescentia usque ad 50 cm. alta anguste paniculata, bracteis oblongis vel fere linearibus sessilibus basi dilatatis et amplexicaulibus; capitula numerosa cymosa sat dense aggregata, breviter vel longiuscule pedicellata, bracteis basalibus paucis vel nullis brevibus linearibus; involucrum 10–11 mm. altum laxe breviterque villosum viride; phyllaria 5 oblongo-linearia subacuta anguste pallido-marginata; corolla 12 mm. longa glabra, tubo fere filiformi, lobis 4 mm. longis; achaenia 5 mm. longa glabra, pappi setis albis 8 mm. longis.—Guatemala: Dept. Quezaltenango: Pine forest, uppermost ridge of Volcán de Santo Tomás, alt. 3,000–3,200 meters, January 22, 1940, *Julian A. Steyermark* 34933 (type in Herb. Field Mus.).

Of the relationship of *C. peltata* HBK., but decidedly different from it in leaf characters, and in the less numerous phyllaries.

Jungia guatemalensis Standl. & Steyerm., sp. nov.—Herbacea vel suffrutescens scandens vel sarmentosa, ramis crassiusculis subteretibus striatis, novellis dense pilis sordidis patentibus pilosis vel villosulis, internodiis elongatis; folia membranacea 2–9 cm. longe petiolata, petiolo dense villosulo-hispidulo; lamina ambitu suborbicularis 5–11 cm. longa, 5–14 cm. lata, basi breviter cordata, breviter 7-loba vel angulato-lobata, supra viridis ubique dense pilis plurilocularibus villosula, subtus paullo pallidior dense molliterque tomentosa et glanduloso-atomifera, e basi 3-nervia, bene supra basin inaequaliter 2–3-plinervia, lobis late rotundatis vel latissime triangularibus integris vel undulatis; capitula alba in cymulas parvas densas congesta, cymulis ample paniculatis, capitulis sessilibus vel breviter pedicellatis, paniculis interruptis foliatis; phyllaria interiora ca. 8 et 5 mm. longa apice late triangulari-obtusa et subapiculata subrevoluta oblonga, dorso densissime minute puberula, phyllariis extimis paucis 2–3 mm. longis elliptico-oblongis vel lanceolato-ovatis acuminatis;

achaenia linearia glabra, immatura 1.6 mm. longa, pappi setis 5–6 mm. longis albis breviter plumosis.—Guatemala: Dept. Alta Verapaz: Tactic, alt. 1,800 meters, March, 1903, *Tuerckheim* 8410 (type in Herb. Field Mus.). Wet forest near Tactic, 1,400–1,500 meters, March, 1941, *Standley* 90311.

Here probably belongs also a sterile collection from Quezaltenango, collected above Mujuliá, at 1,800 meters, *Standley* 85683. The type was distributed as *J. ferruginea* L. f., a species known from Costa Rica but quite different from the Guatemalan plant. This is related to the Peruvian *J. spectabilis* Don, but is clearly distinct from it, according to authentic material from Peru. The Mexican *J. Pringlei* Greenm. is described as having pubescent achenes and acuminate hirsute phyllaries.

Perymenium inamoenum Standl. & Steyerm., sp. nov.—Herba vel suffrutex erectus sparse vel laxe ramosus 40–75 cm. altus, caulibus gracilibus saepe purpureo-maculatis obtuse tetragonis sat dense pilis albidis asperis hispidulis, serius glabratis, internodiis elongatis; folia inter minora petiolata crassiuscula rugosa, petiolo usque ad 1 cm. longo hispidulo; lamina ovata vel oblongo-ovata 2.5–5.5 cm. longa 1–2.5 cm. lata acuta vel acuminata, basi rotundata vel obtusa, crenato-serrata, supra scabra tactu asperrima, ad nervos hispidula, venis impressis, subtus ubique dense hispidula, triplinervia, venis prominentibus arcte reticulatis; capitula lutea parva longipedicellata laxe cymoso-corymbosa, pedicellis ad 3.5 cm. longis dense hispidulis, disco ca. 6 mm. lato; involucrum late campanulatum 4–4.5 mm. altum; phyllaria ca. 2-seriata subaequalia viridescentia ovato-oblonga vel lanceolato-oblonga dense strigillosa ciliata, acuta vel acutiuscula, apicibus subherbaceis plus minusve recurvis; radii ligula oblonga usque ad 7 mm. longa; achaenia atrobrunnea 2.5 mm. longa minute strigillosa vel glabrata apice subtruncata; pappi setae ca. 12 crassiusculae achaenio duplo breviores.—Guatemala: Dept. Zacapa: Pine-covered slopes, Sierra de las Minas, along trail between Río Hondo and summit of mountain at Finca Alejandría, alt. 1,000–1,500 meters, October, 1939, *Julian A. Steyermark* 29737 (type in Herb. Field Mus.); also No. 29650. Dept. Jalapa: Dry rocky hillside, vicinity of Jalapa, alt. about 1,350 meters, November, 1940, *Standley* 76667.

In most respects this resembles closely *P. rude* Rob. & Greenm. of Mexico, but in that the flower heads are somewhat larger and the pubescence of the branches and pedicels is closely appressed. In

this group of the genus the species have been multiplied beyond reason and it is unfortunate to propose any new ones, but the present plant can not be referred satisfactorily to any known species.

Perymenium jalapanum Standl. & Steyerm., sp. nov.—Frutex 3-metralis, ramis gracilibus sulcatis obtuse tetragonis pallide viridibus, internodiis elongatis, sat dense strigosis; folia breviter petiolata chartacea, petiolo crasso 5–10 mm. longo; lamina lanceolata vel oblongo-lanceolata 8–10 cm. longa 2.5–3.5 cm. lata longe attenuato-acuminata, basi anguste rotundata vel obtusa, remote adpresso-serrata, triplinervia vel sub-5-plinervia, supra dense hispidulo-scabra et strigillosa, nervis prominulis, subtus paullo pallidior scabra, utrinque tactu asperrima, venis subtus prominentibus et arcte reticulatis; inflorescentia cymoso-corymbosa vel cymoso-paniculata, capitulis paucis luteis, disco ca. 1 cm. lato et 9 mm. alto, pedicellis 1–3.5 cm. longis dense strigosis; involucrum 7–8 mm. altum late campanulatum basi rotundatum; phyllaria 2–3-seriata, extimis brevibus ovalibus, interioribus ovalibus vel late ovali-ovatis, omnibus apice rotundatis vel obtusissimis dense ciliatis, exterioribus dorso strigosis, intimis fere glabris; radii lamina lineari-oblonga ca. 1 cm. longa; achaenia 4 mm. longa nigrescentia fere glabra minute obscureque transverso-rugulosa; pappi setae ca. 1.8 mm. longae vel breviores inaequales rigidae crassiusculae fulvescentes scabrae subpersistentes. —Guatemala: Dept. Jalapa: Open meadow bordering cloud forest, between Miramundo and summit of Montaña Miramundo, 6 miles south of Miramundo, alt. 2,000–2,300 meters, December 5, 1939, *Julian A. Steyermark* 32685 (type in Herb. Field Mus.).

In appearance this is much like *P. Berlandieri* DC. of Mexico, which has less elongate leaves with denser, less closely appressed pubescence, and a relatively dense and compact inflorescence.

Polymnia verapazensis Standl. & Steyerm., sp. nov.—Herba erecta ramosa vulgo 1–1.5 m. alta, ramis sat dense pilis longis plurilocularibus villosis; folia magna membranacea longipetiolata, petiolo usque 9 cm. longo late marginato basi non dilatato, foliis superioribus breviter petiolatis interdum subsessilibus; lamina late deltoideo-ovata vel rotundo-ovata 14–18 cm. longa et 10–15 cm. lata, acuminata, basi abrupte contracta et ad petiolum longe decurrens, triplinervia, arcte minuteque denticulata, prope basin interdum subhastato-lobata, supra sparse villosa, subtus tenuiter adpresso-tomentosa vel interdum glabrata, foliis superioribus multo minoribus ovatis vel ovato-lanceolatis longiuscule acuminatis, elobatis, basin

versus sensim contractis; capitula magna paniculam magnam corymbiformem efformantia longe graciliter pedicellata, pedicellis dense longivillosis; phyllaria exteriora viridescentia late ovata vel rhombico-ovata vel pro parte angustiora 13–17 mm. longa, acuminata vel subito longiacuminata venosa, dorso pilis plurilocularibus longivillosa, interiora angusta dense stipitato-glandulosa; radii ligula anguste oblonga vel lineari-oblonga ca. 1.5 cm. longa; achaenia matura non visa.—Guatemala: Dept. Baja Verapaz: Panzal, alt. 1,000 meters, April, 1907, *H. von Tuerckheim* II.1732 (type in Herb. Field Mus.). Alta Verapaz: Pantín, below Tamahú, 600 meters, *Standley* 70885A. Wet forest near Tactic, 1,400–1,500 meters, *Standley* 90305.

Apparently a well-marked species, differing from all forms of *P. maculata* Cav., the common species of Guatemala, in its villous phyllaries and unlobed leaves. The type collection was distributed under a name ascribed to Hieronymus that has not been published. We have discarded the specific name used because of doubt concerning its status, and also because it is altogether inappropriate for this plant.

Salmea orthocephala Standl. & Steyerm., sp. nov.—Frutex 1.5–2.5 cm. altus interdum sarmentosus vel subscandens, ramis brunnescentibus vel ochraceis striatis fere omnino glabris; folia chartacea breviter petiolata, petiolo vix ad 5 mm. longo; lamina ovata, lanceolato-ovata vel interdum deltoideo-ovata 8–13 cm. longa 3.5–6 cm. lata longe angusteque acuminata, basi rotundata, saepe subito angustata et breviter decurrens, remote serrato-dentata vel subintegra, triplinervia, utrinque glabra vel subtus praesertim ad nervos pilosa; capitula sordide alba 8 mm. alta turbinato-campanulata sessilia vel usque ad 8 mm. longe pedicellata, dense cymoso-paniculata, paniculis plus minusve corymbiformibus ad 10 cm. latis, pedicellis erectis vel suberectis; involucrum 6.5 mm. altum ca. 4-seriatum sensim graduatum; phyllaria ovato-orbicularia (extima) vel obovato-ovalia apice late rotundata, ciliata, marginibus submembranaceis pallidis, dorso glabra vel glabrata pallida; paleae hyalinae angustae apice rotundatae prope apicem puberulae; corolla glabra 3 mm. longa; achaenia nigrescentia compressa 3 mm. longa sparse adpresso-pilosa, pappi setis brevibus.—Guatemala: Dept. Guatemala: In thickets by river, Concuá Bridge over Río Motagua, alt. about 300 meters, December 8, 1938, *Paul C. Standley* 59321 (type in Herb. Field Mus.). Dept. Chiquimula: Base of Cerro Colorado, along Río Jocotán, near Jocotán, 400 meters, *Steyermark* 31535.

Río Chiquimula, between Santa Bárbara and Petapilla, 350–420 meters, *Steyermark* 30257.

While this is closely related to *S. scandens* (L.) DC., it is undoubtedly a distinct species. It has larger heads than is usual in that, the pedicels are erect rather than spreading or ascending, thus giving the inflorescence a different appearance, and the heads are larger than is usual in that species, with broader, more rounded phyllaries.

It is believed that the following is another distinct Guatemalan species:

Salmea pubescens (Blake) Standl. & Steyerm., sp. nov.—*S. scandens* var. *pubescens* Blake, Brittonia 2: 351. 1937. The type was collected by Skutch near Huehuetenango. We have examined four other collections from the departments of Jalapa, Huehuetenango, and Baja Verapaz. All are alike, and easily distinguishable from typical *S. scandens* as well as from the several varieties of it that have been described.

Tagetes sororia Standl. & Steyerm., sp. nov.—Herba erecta metralis vel saepe humilior ramosa, ramis gracilibus teretibus sparse breviter pilosis vel villosis; folia opposita vel superiora alterna pinnata, foliolis 9–15 membranaceis lanceolatis, oblanceolatis vel anguste ellipticis 1–3.5 cm. longis acutis vel acuminatis rare obtusis grosse serratis, supra puberulis, subtus dense pilosulis, glandulis numerosis parvis sparsis; capitula pauca vel numerosa, pedunculis 3–9 cm. longis nudis vel bracteis paucis parvis pinnatisectis onustis; involucrum anguste campanulatum 10–12 mm. longum basi obtusum 5–6 mm. latum glabrum; phyllaria 5–7 apice deltoidea obtusa, conspicue glandulis oblongis brevibus 2-seriatis onusta; ligulae oblongae ca. 12 mm. longae luteae; disci corollae luteae 6 mm. longae puberulae, tubo limbo bene breviore; achaenia 5 mm. longa fere glabra; pappi setae 2 subulatae 3 mm. longae, aliis 3 oblongis vix 1 mm. longis.—Guatemala: Dept. Quezaltenango: Mountains north of Olintepeque, dry oak forest, alt. 2,500–2,800 meters, January 29, 1941, *Paul C. Standley* 85228 (type in Herb. Field Mus.).

There are at hand also numerous other Guatemalan collections, from the departments of Totonicapán, Quezaltenango, Huehuetenango, and San Marcos. By Rydberg (N. Amer. Fl. 34: 153. 1915) the Guatemalan collections then available were referred to *T. zypaquirensis* Humb. & Bonpl., a plant of Colombia and Ecuador. Since the plant is not known from the mountains of Costa Rica, it was at once suspected by the writers that a distinct species might

be represented in Guatemala, and comparison of material from the two areas shows that this is the case. The South American specimens of *T. zypaquirensis* are conspicuously different from the Guatemalan ones in their short broad leaflets, very obtuse or rounded at the apex, and in the numerous, conspicuous, well-developed bracts scattered along the peduncles.

Trixis amphimalaca Standl. & Steyerm., sp. nov.—Frutex 1–1.5 m. altus ramosus, ramis ochraceis vel brunnescentibus dense sed laxe tomentosis, sat dense foliatis; folia omnia petiolata chartacea, petiolo crasso 3–6 mm. longo dense tomentoso; lamina oblongo-lanceolata vel anguste elliptico-oblonga 4–6.5 cm. longa 1–2 cm. lata acuta vel breviter acuminata, basi acuta vel attenuata, integra vel subintegra, supra primo dense laxe tomentosa serius glandulosopilosula vel glabrata, subtus tomento ochraceo laxo dense induta; capitula ad apices ramorum dense congesta pauca breviter pedicellata; phyllaria exteriora foliosa oblonga vel lanceolato-oblonga interioribus paullo breviora acuta dense tomentosa; phyllaria interiora oblongo-linearia ca. 12 mm. longa densissime pilis adscendentibus mollibus pilosa et quoque glandulosa, acutiuscula; radii ligulae luteae 5 mm. longae; achaenia 7 mm. longa linearia densissime hispidula; pappi setae fulvescentes 12 mm. longae.—Guatemala: Dept. Huehuetenango: Dry rocky hills north of Chiantla, alt. 2,000–2,250 meters, January 6, 1941, *Paul C. Standley* 82538 (type in Herb. Field Mus.); also No. 82579.

In describing this plant we are perhaps only adding another poorly marked species to a genus that already has too many such "species," but unless several others are reduced to synonymy or varietal rank, it does not seem possible to associate this with any of the species already described. It comes from the type locality of *T. chiantlensis* Blake, and grows with or near it, which increases one's suspicion regarding its distinctness. *T. chiantlensis*, however, differs decidedly in its relatively scant pubescence, and in having the upper as well as most of the leaves sessile or nearly so, and mostly rounded or obtuse at the base. *T. amphimalaca* is much more distinct from *T. radialis* than is *T. chiantlensis*, which is really very closely related to *T. radialis* and perhaps only a form of it.

Verbesina petzalensis Standl. & Steyerm., sp. nov.—Frutex 2–3.5 m. altus, ramis crassis petiolorum basibus decurrentibus anguste alatis densissime glandulosis et sordide pilosulo-tomentulosis striatis; folia alterna sessilia vel alato-petiolata magna mem-

branacea oblongo-ovata vel lanceolato-oblonga, superiora usque ad 40 cm. longa atque 11 cm. lata acuta vel acuminata, basin versus cuneata vel attenuata ad basin petioli decurrentia obsolete denticulata vel subintegra, supra viridia densissime scabra tactu asperrima, subtus densissime pilis brevibus sordidis patentibus vel subadpressis pilosa; capitula parva alba paniculam magnam efformantia, pedicellis usque ad 1 cm. longis rigidis, dense villosulo-hispidulis; involucrum campanulatum basi obtusissimum 4–4.5 mm. altum pilosulum; phyllaria ca. 3-seriata pallida lineari-spathulata vel oblongo-obovata apice obtusa vel subrotundata et apiculata; radii lamina alba ovalis vel late oblonga vix ultra 3 mm. longa; achaenia 3 mm. longa nigra glabra sparse minute tuberculata, basi longiuscule stipitata, latiuscule albido-alata; pappi setae 2 erectae ca. 2 mm. longae.—Guatemala: Dept. Huehuetenango: Damp hillside thicket, near crossing of Río San Juan Ixtán, east of San Rafael Pétzal, alt. about 1,730 meters, January 9, 1941, *Paul C. Standley* 82921 (type in Herb. Field Mus.).

In most respects this resembles closely *V. scabriuscula* Blake, a common species of Guatemala, but in that the branches are naked, not winged.

Vernonia medialis Standl. & Steyerm., sp. nov.—Herba vel frutex 1–1.5 m. altus laxe ramosus, ramis interdum recurvis multistriatis viridibus dense minute puberulis; folia breviter petiolata membranacea utrinque viridia, petiolo crasso ad 4 mm. longo; lamina lanceolato-oblonga vel elliptico-oblonga, interdum oblanceolato-oblonga 7–15 cm. longa 2–6.5 cm. lata longiacuminata basi acuta usque anguste rotundata integra, supra brevissime tuberculato-pilosula vel serius scaberula vel glabrata, subtus concolor dense resinosa praesertim at venas minute hispidula vel pilosula, saepe fere glabra, non vel vix rugosa; cymae paucae vel numerosae simplices vel laxe ramosae secundae elongatae recurvae, saltem prope basin foliaceo-bracteatae, bracteis interdum fere omnia capitula fulcrantibus foliis similibus sed brevioribus; capitula sessilia campanulata 7–8 mm. alta approximata vel distantia; phyllaria numerosa multiseriata tenuiter laxeque arachnoideo-tomentosa, extima brevia subpatentia spinoso-subulata, costa incrassata excurrente, mediis subadpressis lineari-lanceolatis attenuatis et plus minusve spinoso-subulatis, intimis late linearibus pallide marginatis acutis vel acuminatis; flores albi vel roseo-albi ca. 25, corollis fere filiformibus glabris; achaenia pallida 2.5 mm. longa densissime antrorso-hispidula; pappi setae albae 6 mm. longae, squamis exterioribus oblongo-linearibus

brevibus albis.—Guatemala: Dept. Retalhuleu: Damp thicket, Río Coyote, along road 4 km. west of Retalhuleu, alt. about 300 meters, February 17, 1941, *Paul C. Standley* 87473 (type in Herb. Field Mus.). Vicinity of Retalhuleu, 240 meters, *Standley* 88793. Dept. Escuintla: Near Escuintla, 135–300 meters, January, 1939, *Standley* 63899, 63945.

A relative of *V. canescens* HBK., which differs in its relatively broader and shorter leaves, with the under surface of the leaves usually covered with a very dense indument of long antrorse hairs. The present plant is more or less intermediate between *V. canescens* and *V. argyropappa*, resembling the latter in habit and also in the leafy bracts subtending some of the lower heads of the cymes.

Zexmenia pinetorum Standl. & Steyerm., sp. nov.—Herba perennis erecta e radice brevi crassa nascens, caulibus paucis vulgo 50–100 cm. altis ramosis gracilibus dense sparseve pilis patentibus albis hispidis; folia breviter petiolata ovata vel rhombico-ovata 3.5–7 cm. longa 1.5–3.5 cm. lata, acuta vel acuminata, basi late cuneata vel saepe subito contracta et longe interdum fere ad basin petioli decurrentia, triplinervia, adpresso-serrata vel subintegra, supra densissime tuberculato-hispida et glandulosa tactu aspera, subtus densissime molliterque hispido-pilosa; capitula pauca longissime pedunculata solitaria vel ternata, pedunculis nudis vel paucibracteatis hispidulis et hirsutis; involucrum late campanulatum 7–8 mm. altum 3-seriatum; phyllaria extima triangulari-oblonga obtusa hispidula, interioribus oblongis obtusis vel acutis glabris vel dorso sparse scabris; radii ca. 5, ligulis ovalibus 4–5 mm. tantum longis luteis; paleae lineari-attenuatae 9 mm. longae glabrae vel ad carinam ciliolatae; achaenia 4–5 mm. longa subcompressa adpresso-pilosula late emarginata, latiuscule alata; pappi aristae 2 erectae inaequales ad 4 mm. longae scaberulae, squamis in cupulam 0.8 mm. longam laceratam coalitis.—Guatemala: Dept. Jutiapa: Rocky open pine forest, hills between Jutiapa and Plan de Urrutia, north of Jutiapa, alt. 900–1,200 meters, October 28, 1940, *Paul C. Standley* 75590 (type in Herb. Field Mus.).

Here are referred also eight other collections, from the departments of Chiquimula, Santa Rosa, Sacatepéquez, Chimaltenango, and Huehuetenango. One of them was distributed as *Wedelia acapulcensis* HBK., but if one may rely upon achene characters for separating these genera, the plant is a *Zexmenia* rather than a *Wedelia*. It is not closely related to any other Central American

species of the genus, and does resemble somewhat in its general appearance *Wedelia acapulcensis*.

Zexmenia phyllocephala (Hemsl.) Standl. & Steyerm., comb. nov. *Wedelia phyllocephala* Hemsl. Biol. Centr.-Amer. Bot. 2: 170. 1881. *Z. phyllostegia* Klatt, Leopoldina 25: 105. 1889. *Z. subsericea* Blake, Contr. U. S. Nat. Herb. 22: 635. 1941.—It is curious that all three names listed above were based upon material from the same region and perhaps from the same colony, between San Cristóbal and Río Chixoy, Alta Verapaz, Guatemala. The plant is very limited in distribution, apparently, and it is remarkable that it has been named so many times, but two of the names were based on the same collection number (*Bernoulli* 1077)! It is a characteristic shrub of the lower slopes of the Sierra de los Cuchumatanes in Quiché and Huehuetenango, being especially abundant upon the almost bare serpentine outcrops.

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